SERVICE MANUAL

A-360/TEAC 360S

STEREO CASSETTE DECK

HIGH DENSITY FERRITE HEAD
RECORD
OUTPUT
POWER
TEAC
A-360
TEAC
DOLBY SYSTEM
PHONES

TEAC®
TOKYO JAPAN

103

MANUAL CODE NO.: MC3600E100

1. GENERAL DESCRIPTION

The A-360 Stereo Cassette integrates the latest technology in cassette transport mechanisms providing specifications for performance that rivals open reel tape decks. The basic transport is similar to that found in TEAC's A-450 and the design overall resembles the earlier TEAC's A-350. Bias and equalization are switched separately with three settings for each. Dolby Noise Reduction is more flexible with a switchable multiplex (MPX) filter and external Dolby recording level adjustments for each position of the BIAS/EQ switches. Index-counter Memory Rewind is provided for the user and a removable head access panel facilitates head maintenance. Standard TEAC features such as end-of-tape electronic Auto-stop, PEAK LEVEL Indicator, INPUT Selector, REC Indicator lamp and a TAPE RUN Indicator are included. The A-360 also has Dolby Playback Level Calibration adjustments on the rear panel (PB CAL). See page 3 for TEAC 360S differences.

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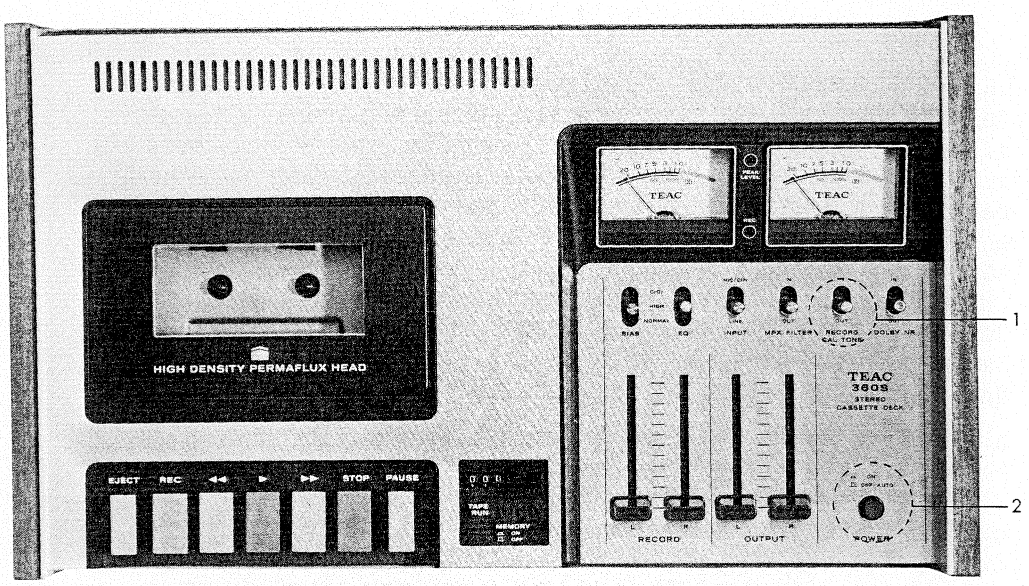
NOTE

When placing an order for parts, please refer to the PARTS LIST and PRICE LIST FOR PARTS which are printed separetely from this manual.

1. File the PARTS LIST manual together with this SERVICE MANUAL; future MANUAL CHANGE SHEETS should also be kept with these.
2. Use the PARTS LIST manual and the PRICE LIST FOR PARTS when ordering replacement parts from TEAC Corp.

TEAC 360S DIFFERENCE DATA


HIGH DENSITY PERMAFLUX HEAD
EJECT
REC
STOP
PAUSE
TAPE RUN
MEMORY
BIAS
EQ
INPUT
MPX FILTER
RECORD CAL TONE
DOLBY NR
TEAC 360S STEREO CASSETTE DECK
RECORD
OUTPUT
POWER
1
2

1. RECORD - CAL TONE Switch
   This switch is found only on the TEAC 360S. In the Record Mode, it provides a fixed 400 Hz tone from the internal Tone Generator for Dolby Record Level calibration. In either the Record or Playback mode, it switches the Level Meters to be independent of the OUTPUT Level Controls. Leave OUT for normal operation and for all procedures given elsewhere in this manual.

2. POWER Switch - OFF/AUTO Function
   Permits Record and Playback operation (but not fast winding) when the POWER Switch is at the OFF/AUTO position. This permits complete power shut-off with the End-of-tape Auto-stop feature removing the power from the entire deck.

Alternative Alignment Procedures

1. Dolby Playback Level Calibration
   a. Insert the Dolby Level Test Tape MTT-150.
   b. Set the EQ switch to NORMAL

      RECORD - CAL TONE switch IN
      DOLBY NR switch IN

   c. Begin Playback (▶) and adjust the PB CAL controls on the rear of the deck to the Dolby Reference Mark (DD). Use the small dot to the left above the Dolby Ref. Mark for precise calibration. For further details, see page 9 of the TEAC 360S Instruction Manual.

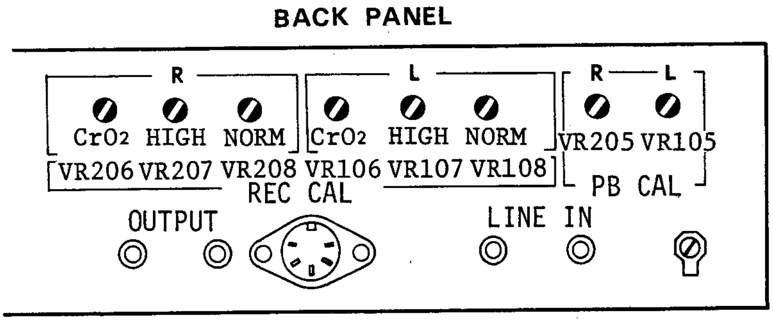
Continued on page 4 •••

2. Dolby Record Level Calibration

This procedure will optimize the Recording Level for a particular type of tape. No test equipment is needed, but this procedure should be done with the standard reference recording test tapes [MTT-505 (CrO_2), MTT-501 (HIGH), MTT-502R (NORMAL)] unless the particular type of tape is specified by the owner. All other procedures should be completed before accomplishing this alignment. This procedure can be used to replace the directions for RECORD LEVEL ADJUSTMENTS on page 29 of this Service Manual if desired. See page 9 of the Instruction Manual for the TEAC 360S for expanded explanation.

a. Perform the Dolby Playback Level Calibration check (above).
b. Insert the blank cassette tape and set the BIAS and EQ switches to match the type of tape.
c. Set the RECORD - CAL TONE and the DOLBY NR switches IN.
d. Depress the REC, ▶ , and PAUSE buttons. Adjust the REC Level controls for a +3 VU indication on both Level Meters.
e. Release the PAUSE control, record about 10 - 15 seconds of the tone from the internal Tone Generator.
f. Rewind, playback the recording, both meters should indicate +3 VU. Adjust VR-106/206 (CrO_2), VR-107/207 (HIGH), VR-108/208 (NORMAL) as appropriate until the REC/PB process gives +3 VU.
g. Tolerance should be within 1 VU of +3 VU for each channel. Both channels should be within 1.5 VU of each other.

NOTE: Several minor design and parts differences exist between the TEAC A-360 and the TEAC 360S. Consult the PARTS LIST MANUAL, Schematic Diagrams and the TEAC 360S Instruction Manual for further information.



Step f. Adjustments Location

2. SERVICE DATA

Track type:	4 track 2 channel stereophonic
Head Configuration:	2 track 1 channel Erase Head 4 track 2 channel R/P Head DM,EX = Ferrite TCA = Permaflux
Motor:	Hysteresis synchronous outer rotor motor (AC 50V)
Tape type:	C-60, C-90 Phillip's cassette tape
Tape speed:	4.8 cm/sec (1-7/8 ips)
Equalization:	3180 µs ±120, 3180 µs ±70 µs (CrO_2)
Bias Frequency:	100 kHz (AC bias)
Impedance:	MIC: 600 Ω unbalanced LINE: 50 kΩ unbalanced
Input Level:	MIC: -57 dB min. -67 ±2 dB LINE: - 5 dB min. -15 ±2 dB DIN: -25 dB min. -35 ±2 dB +3 VU (DD) reading with VU meter
Output load impedance:	OUTPUT: 10 kΩ or more HEADPHONE: 8Ω
Output Level:	OUTPUT : - 5 dB (+3 VU DD reading with VU meter) HEADPHONE: -21 dB
Operating Position:	Horizontal
Operation time:	Continuous
Ideal Environment:	Temperature 20° C (68° F), Humidity 65%
Environmental Limits:	Temperature +5° C ∿ +35° C (41° F ∿ 95° F) Humidity 45 % ∿ 85 %
Power Requirements:	DM : 100 V/50 Hz, 60 Hz (18W) TCA: 117 V/60 Hz (18W) EX : 100, 117, 220, 240 V/50 Hz, 60 Hz
Weight:	7.5 kg (16-1/2 lbs) net

The above Service data is subject to change with the incorporation of future modifications or improvements. Since this Service data is for use by service qualified personnel it may differ in some respects from that depicted in advertising material or that found in the owners instruction manual.

CAPACITY -MECHANICAL-

Tape Speed Deviation:	±1% (3000 Hz ±30 Hz) or less
Tape Speed Variation:	0.5% or less
Wow-flutter:	At playback 0.18% RMS LINEAR At record 0.20% RMS LINEAR
Fast Winding Time:	100 seconds at C-60
End Stop Time:	4 second ±2 tape end until stop button up

OVERALL FREQUENCY

Difference Input Level:	MIC : min. -67 dB ±2 dB LINE: min. -15 dB ±2 dB Channel difference:2 dB or less
Difference Output Level:	Max. output -3.5 dB ±0.5 dB Channel cifference: 1 dB or less At output -5 dB Headphone: -21 dB ±2 dB VU meter : +3 VU ±0.2 VU
Dolby Level:	Dolby level check point (Using measurement equipment with impedance of 1 MΩ or more) 400 Hz 100 mV (difference between channels 0.2 dB).
Click Level:	At each operating specified level against - 30 dB (VU) or more

PLAYBACK PERFORMANCE

Frequency Response Limit:	Refer to FREQUENCY RESPONSE LIMIT chart
SN Ratio:	Specified output level 400 Hz against reading AM ratio With EQ switch NORMAL, HIGH ············· 47 dB With EQ switch CrO_2 ···················· 49 dB SN between channel 4 dB
Distortion:	1% or less using MTT-118 test tape
Phase:	At 333 Hz in phase L and R channels

REC/ PLAY PERFORMANCE

REC/PLAY Frequency Response Limit:

measurement of -33 dB below the specified level.
Refer to FREQUENCY RESPONSE LIMIT chart.

Difference Level:

1 REC/PLAY specified level is at 400 Hz
Dolby Level ··········· 0.5 dB or less
2 333 Hz at 0 dB: 31.5 Hz ∿ 14 kHz 4 dB or less
40 Hz ∿ 6.3 kHz 3 dB or less

SN Ratio:

At specified (out/in) position, place the unit in the RECORD mode with no signal applied.

DOLBY NR-OUT

With BIAS EQ switch
- NORMAL ···· 45 dB or more
- HIGH ······ 45 dB or more
- CrO_2 ······ 46 dB or more

DOLBY NR-IN

With BIAS EQ switch
- NORMAL ···· 56 dB or more
- HIGH ······ 57 dB or more
- CrO_2 ······ 60 dB or more

[W.RMS]

S/N Difference Between Channels:

5 dB with Dolby -OUT
4 dB with Dolby -IN

Distortion:

At 400 Hz, -3 dB below the specified level,
2.7% or less (160 nWb/m) ··········· CrO_2
At 400 Hz, -3 dB below the specified level,
2.5% or less (160 nWb/m) ········ MTT-501HF
MTT-502R

NOTE

* As a result of continuing changes and improvements during the prodection run, minor difference may be found between early and later machines.
Refer to manual change sheet for information concerning modifications.

* Value of "dB" in the test refer to 0 dB = 0.775V, except where specified. If a Test Set or an AC VTVM calibrated to 0 dB = 1V is to be used, appropriate compensation should be made.

Refer to the TEAC DECIBEL TABLE on page 37 to obtain conversion of millivolts to dB should your meter not have a dB scale.

3. TOOLS FOR TESTING AND MAINTENANCE

A minimum of the following tools and test instruments are required for measuring and adjusting to obtain optimum performance. Regular maintenance tools will be adequate for those not listed here. If any test instrument listed here is not available, a close equivalent can be used.

TEST TAPE:

Playback test tape

Wow-flutter, speed	MTT-111
Specified level set (DD mark)	MTT-150
Playback distortion test	MTT-118
Cross talk 4 track	MTT-141 or 142
Frequency response and head alignment	MTT-116L

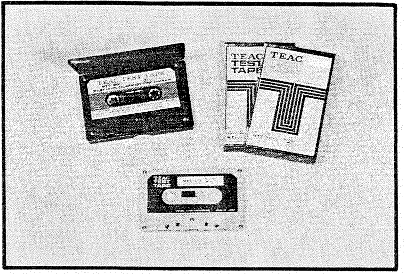


Fig. 3-1 TEAC Test Tape

Record/Playback tape

Wow-flutter measurement		MTT-502R
Frequency response	CrO_2	MTT-505
	HIGH	MTT-501
	NORMAL	MTT-502R
Record distortion test	CrO_2	MTT-505

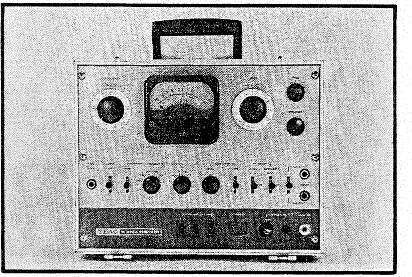


Fig. 3-2 TEAC M-826A Test Set

TEST SET: TEAC M-826A

NOTE

Use of the TEAC M-826A test set is recommended. This set incorporates a level meter, audio oscillator, channel selecting switch, variable attanuator and monitor speaker. TEAC M-826A measures the RMS value of the voltage (0 dB=0.775V). Characteristics of this test set are similar to the standard VU-METER.

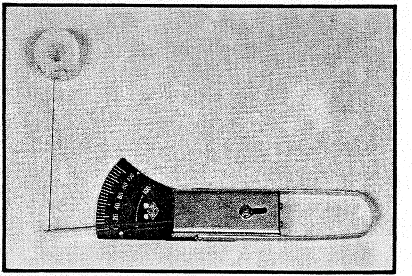


Fig. 3-3 Torque Gauge

AC VTVM: General

TORQUE GAUGE: 0∿70 gram
0∿150 gram

SPRING SCALE: 0∿500 gram

FREQ. COUNTER: Capable of 0∿5 kHz indication

FLUTTER METER: MEGURO Model 665B

4. SERVICING AND MAINTENANCE

1. Power supply

Make sure that the power supply is stable at the rated voltage. Fluctuations will result in uneven tape speed, and wow and flutter in the recorded signal.

2. Cleaning the heads

TEAC TZ-261A for Head cleaning, TZ-261B for Rubber cleaning must be used.

3. Lubrication

Lubrication should not be required unless a part has been replaced. First wipe off old oil, grease and dirt. Apply 1 or 2 drops of TEAC TZ-255 oil to all bearings.
Grease other moving parts lightly with DAW DC33L or MOLYCOAT.

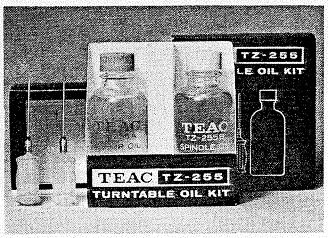
NOTE: If the motor pulley, idler, flywheel and pinch roller become soiled with oil or grease, slippage will occur. Remove all traces of oil with TZ-261 A/B. Since the reel disc is made of polyacetal, it is unaffected by solvents. If oil touches the reel disc, the brake should also be inspected.

4. Demagnetization of the head

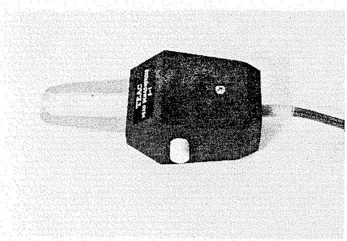
If the record-playback head become magnetized, noise will increase and tonal fidelity will deteriorate. For this reason it is advisable to use non-magnetic tools when working near the head.
In cleaning, tweezers of brass or other such material are preferred. Similarly, the use of a tester or vacuum tube ohm-meter should be avoided in connection with the head, as these instruments operate by applying a DC current, and will thus induce magnetism. If the heads have had any contact with currents or metal parts, demagnetize them with a TEAC E-1.

TEAC TZ
TAPE RECOR
CLEAN
TEAC
TZ-261A
TAPE RECORDER
HEAD CLEANER
TEAC
TZ-261 B
TAPE RECORDER
RUBBER CLEANER
TEAC TZ-261
TAPE RECORDER
CLEANER

TEAC TZ-261
Cleaner


TZ-255
LE OIL KIT
TEAC
TZ-255B
SPINDLE
TEAC TZ-255
TURNTABLE OIL KIT

TEAC TZ-255
Oil Kit

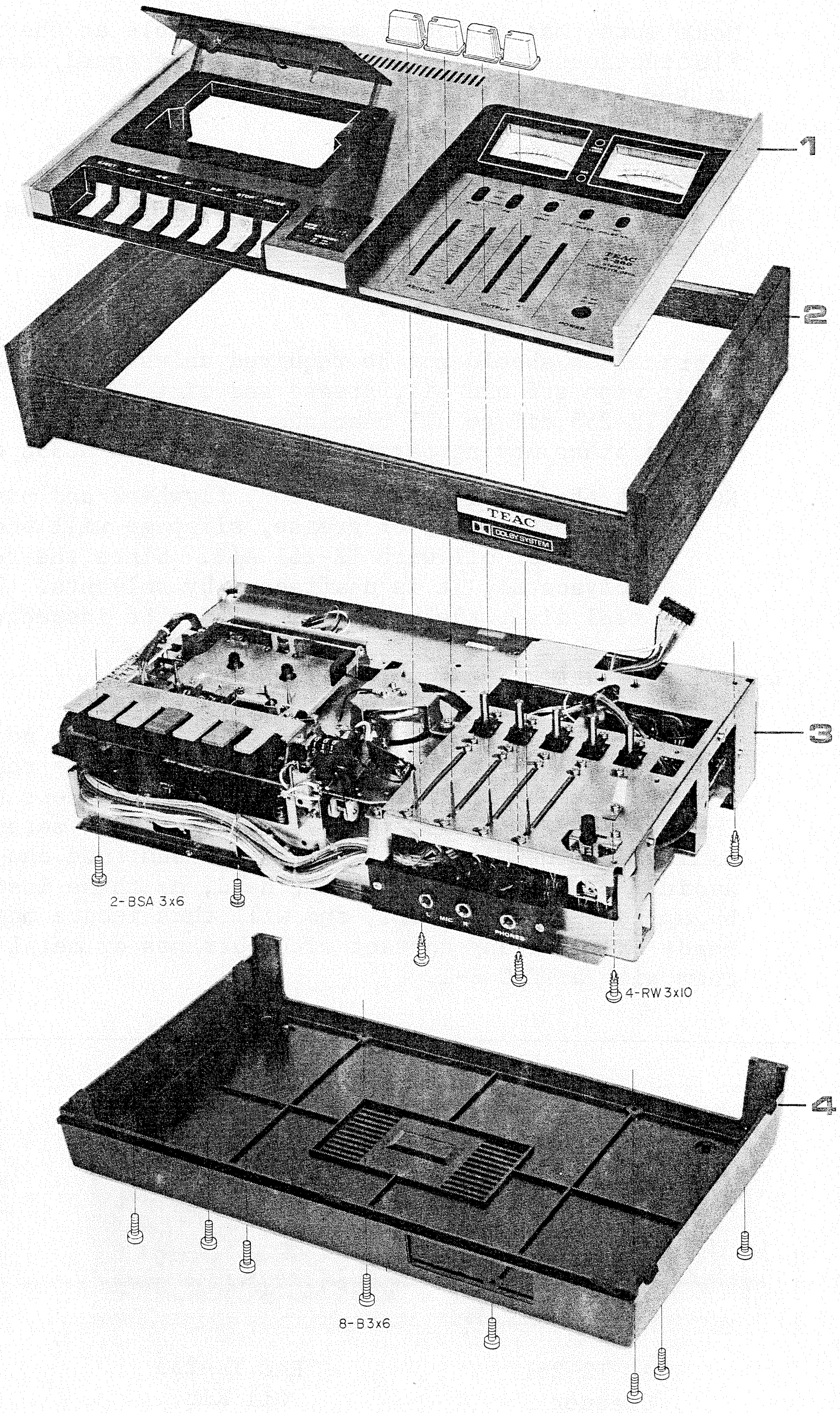


TEAC E-1
Head Demagnetizer

TEAC MAINTENANCE EQUIPMENT

5. PARTIAL DISASSEMBLY

CASE REMOVAL


1
2
TEAC
DOLBY SYSTEM
3
2-BSA 3x6
MIC
PHONES
4-RW 3x10
4
8-B3x6

1. Top panel
2. Wooden case
3. Mother chassis
4. Bottom cover

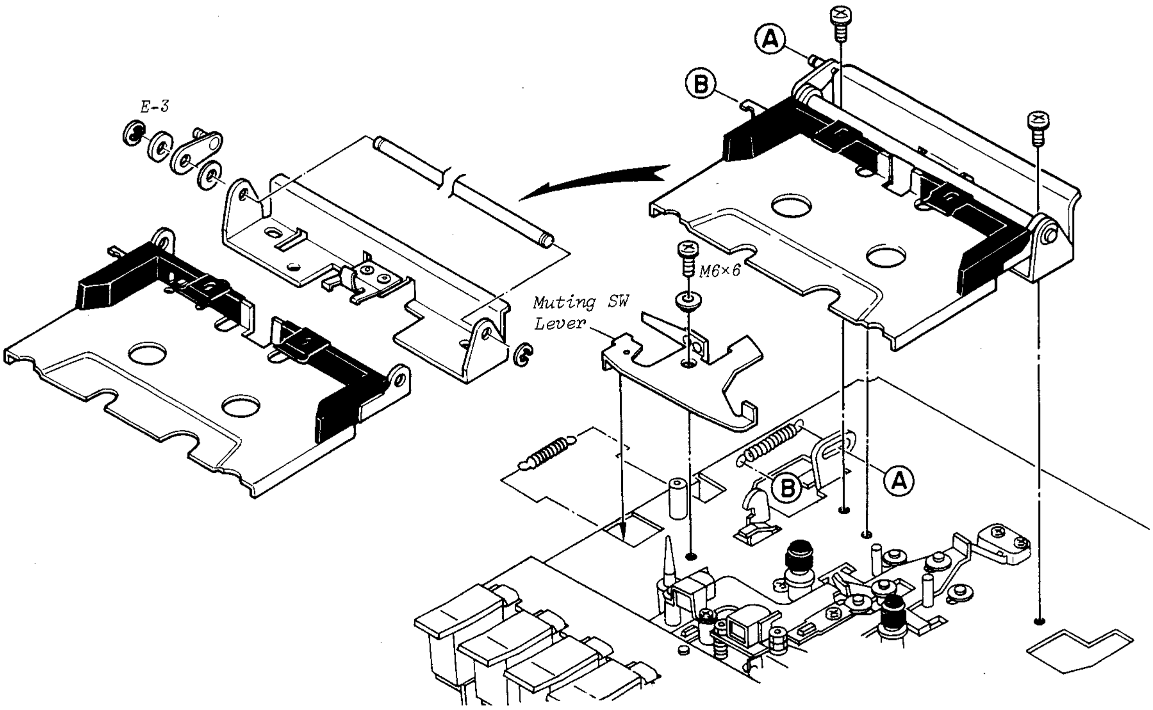
Fig. 5-1 Case Removal

GENERAL DISASSEMBLY PRECAUTIONS

- * Clean all disassembled parts.
- * Use the right tools. Demagnetize the tools before use.
- * Place the disassembled parts in order of disassembly.
- * Do not reuse the E ring. Use a new one when reassembling.
- * Do not attempt parts disassembly beyond that shown in the disassembly drawing which clearly indicates such limits.
- * To prevent loosening due to vibration, apply "LOCTITE" to all tightened screws.
- * Do not attempt partial adjustment of the factory adjusted assemblies.
- * When mounting or removing a spring, pay heed to the position (direction) of the hook. The wrong position may result in a change in the tension.

CASSETTE CARRIER ASSY

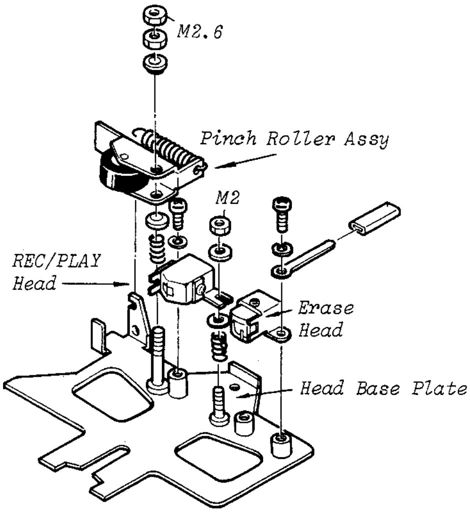
See illustration for complete disassembly instructions.



For ordering parts, refer to the exploded view of the PARTS LIST.
An accompanying listing provides the parts Numbers.

HEAD AND PINCH ROLLER REPLACEMENT

1. Remove the top panel.
2. Diagram indicates assembly/disassembly locations.
3. Observe these CAUTIONS:
   a. Springs must be re-installed to their former positions.
   b. Re-wire the heads according to the diagram below.
   c. Always proceed directly to the head alignment or pinch roller pressure adjustment sections after replacement.


M2.6
Pinch Roller Assy
M2
REC/PLAY Head
Erase Head
Head Base Plate

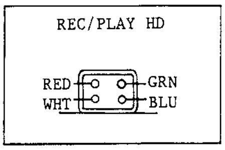

REC/PLAY HD
RED
WHT
GRN
BLU

Fig. 5-2 Heads and Pinch Roller Replacement

PUSH BUTTON ASSEMBLY REMOVAL

1. Remove power from the unit and take off the top panel.
2. Depress the STOP button so that all controls are up.
3. Remove the 4 screws holding the assembly.
4. Lift out the assembly carefully without disturbing the position of any of the levers on the chassis.

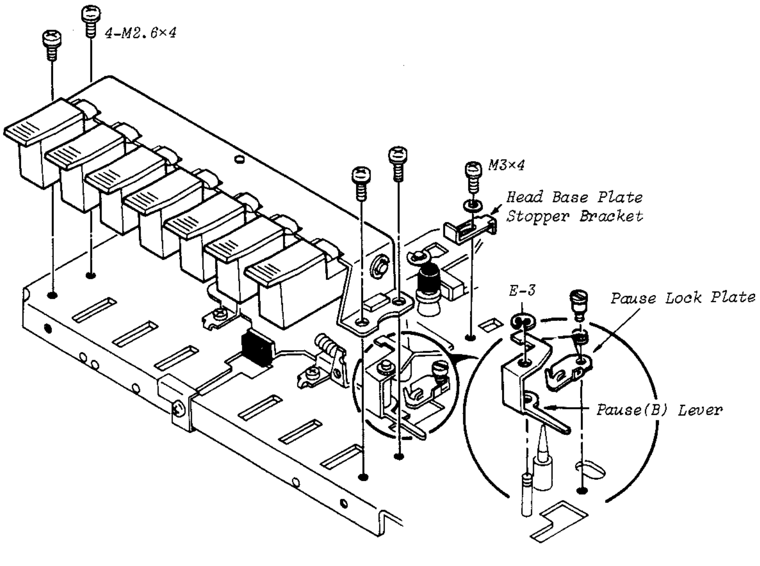

4-M2.6×4
M3×4
Head Base Plate Stopper Bracket
E-3
Pause Lock Plate
Pause(B) Lever

Fig. 5-3 Push Button Assy Removal

CAPSTAN ASSEMBLY AND BELT REMOVAL

1. Remove the bottom cover, depress the STOP button.
2. Remove the 2 screws (B) from the supporting bar (A). Remove the bar, and set aside.
3. Remove the large drive belt (C) from the motor pulley and the capstan flywheel (D). Handle with care, do not stretch or twist the belt and do not apply force to the flywheel.
4. Carefully lift out the capstan flywheel (D). Watch for the flat washer (E).

CAUTION

Do not apply any sideways stress or twist to the flywheel assembly. Rocking or bending the shaft may destroy the linearity or smoothness of the capstan.

5. Remove the 3 screws (F) then lift out capstan housing assy (G).

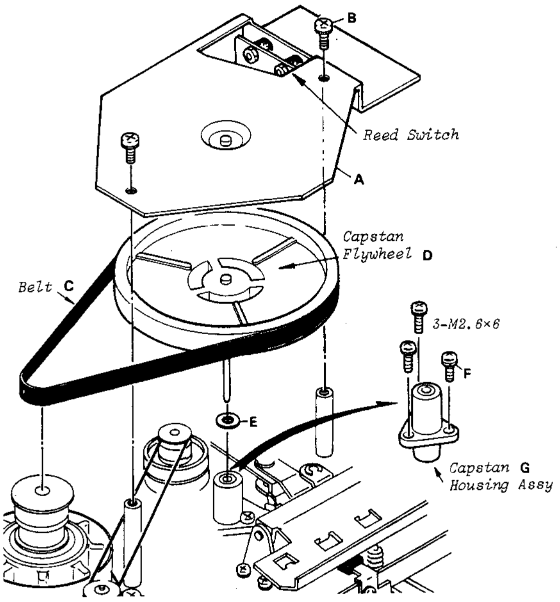


Fig. 5-4 Capstan and Belt Removal

INSTALLATION

When re-installing the assembly, observe the following CAUTIONS:

1. Thoroughly clean all metal parts and the drive belt with the appropriate cleaning solutions (TZ-261 A/B). This includes the inside of the capstan housing assy (G), the washer (E), and the drive surface of the flywheel (D) and the motor pulley.
2. Apply a film of light grease (DAW DC33L or MOLYCOAT) to the bottom inside well of the flywheel, the pivot point on the top center of the flywheel and the well on the bottom center of the supporting bar (A). Grease the shaft only half way from the flywheel to the tip of the flywheel shaft. The capstan tip should be kept clean.
3. Lightly grease the washer (E), then place it on the capstan housing assembly before inseting the flywheel shaft.
4. Clean your hands before replacing the belt (C) and avoid contacting any lubrication with it during installation.
5. Clean the tip of the capstan (in the cassette compartment) before performing the operational check.

MOTOR REPLACEMENT

1. Disconnect the power cord and remove the top and bottom covers.
2. Release the drive belt from the motor pulley. It is not necessary or desirable to remove the capstan assy.
3. Unsolder the 3 wires from the motor.
4. Remove the 3 screws and washers holding the mouning bracket to the chassis. Remove the bracket/motor assy taking care not to damage the motor pulley.
5. Carefully re-install the new bracket/motor assy on the chassis. Place the grounding lug under the corresponding bracket screw.
6. Resolder the wires, matching the color code in the illustration.
7. Clean the drive belt with TZ-261B and the motor pulley and capstan flywheel pulley with TZ-261A.
8. Re-install the belt, without twisting or stretching it. Check for proper belt positioning so that the belt is not riding on the lips of the pulley.

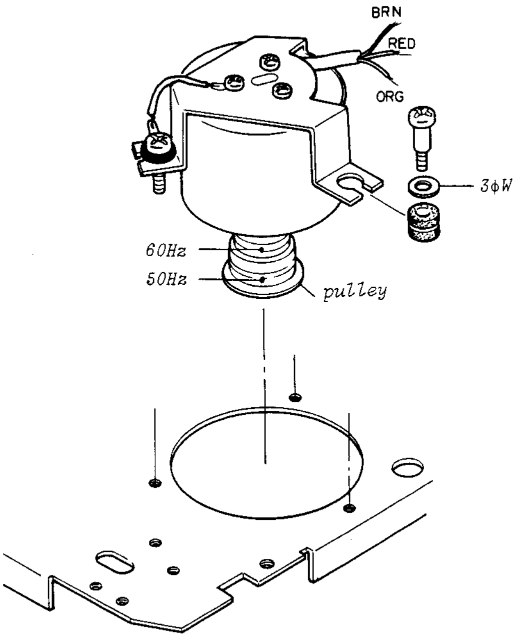
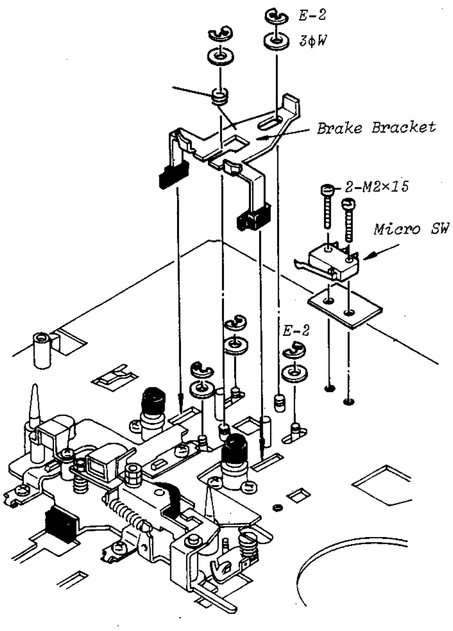
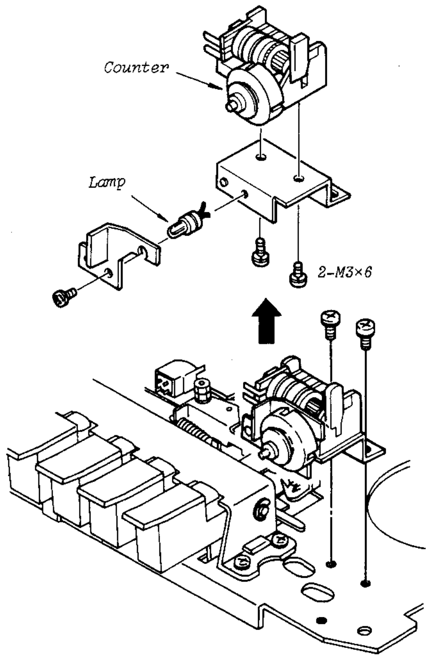


Fig. 5-5 Motor Removal

See illustration for complete disassembly instructions.

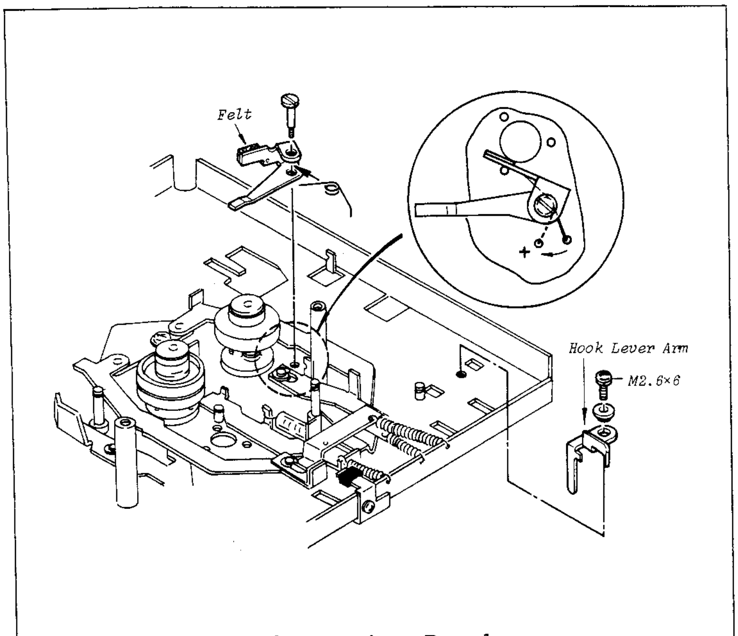


Brake Bracket and Micro SW

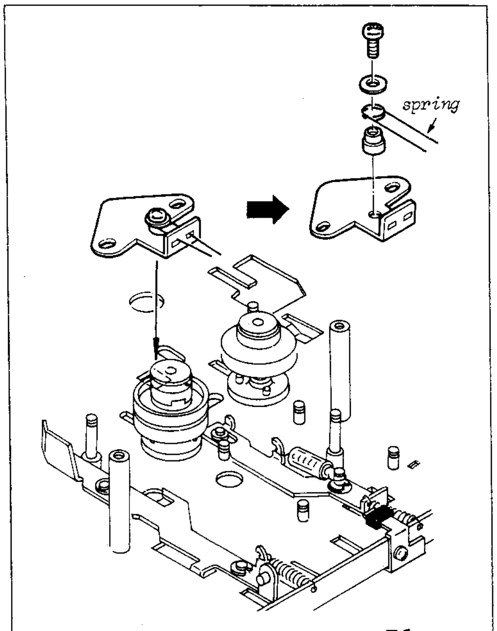


Counter Assy

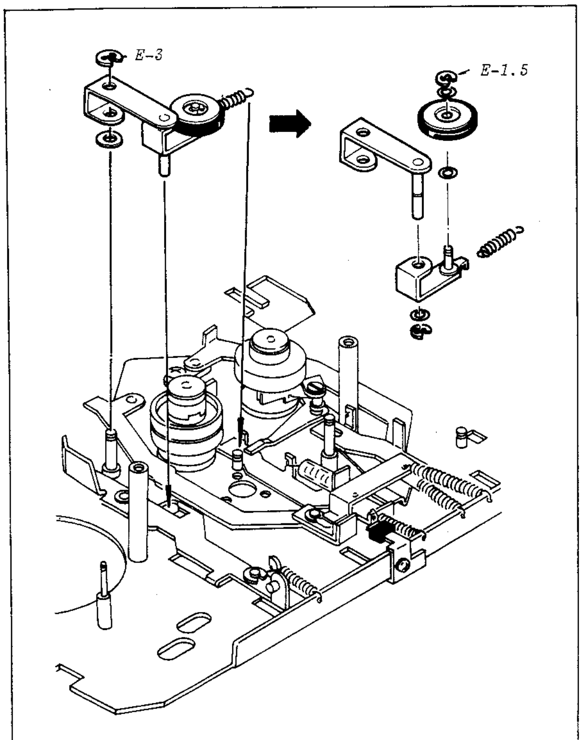
See illustration for complete disassembly instructions.


Felt
Hook Lever Arm
M2.6×6

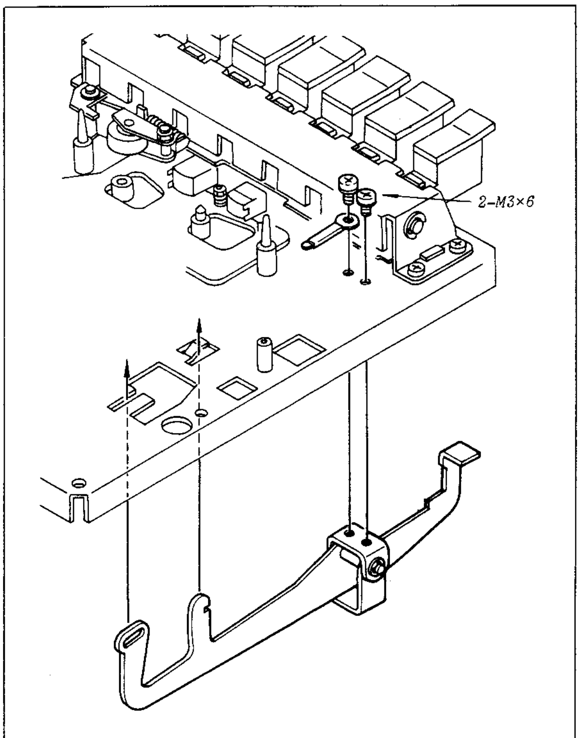
Back Tension Bracket



Fast Winding Pressure Plate

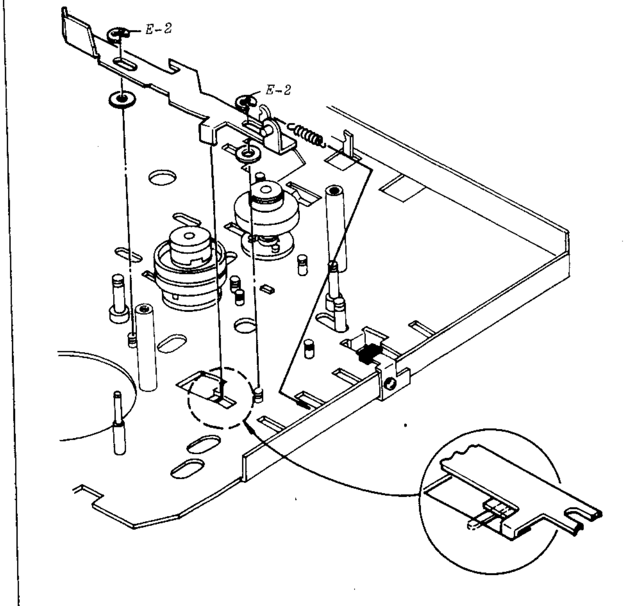


Idler Assy

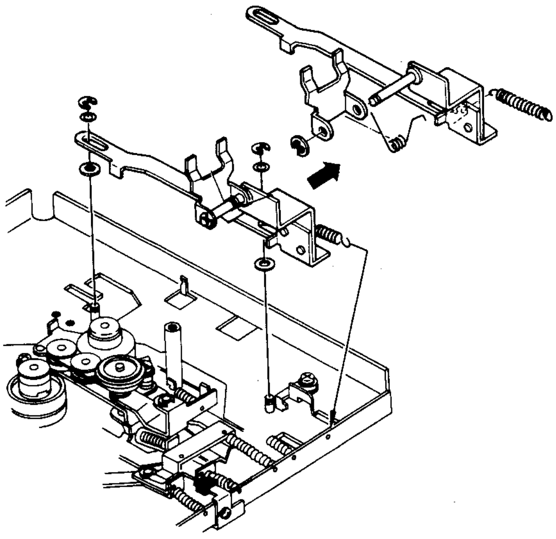


Cassette Up Rocker Lever

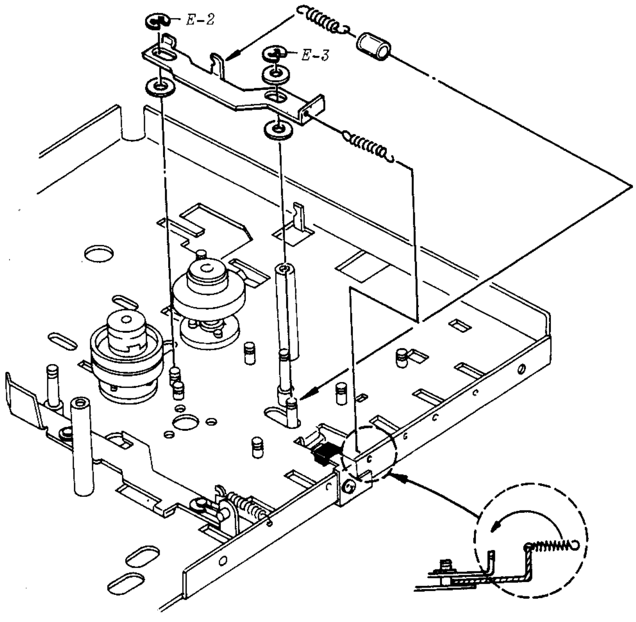
See illustration for complete disassembly instructions.



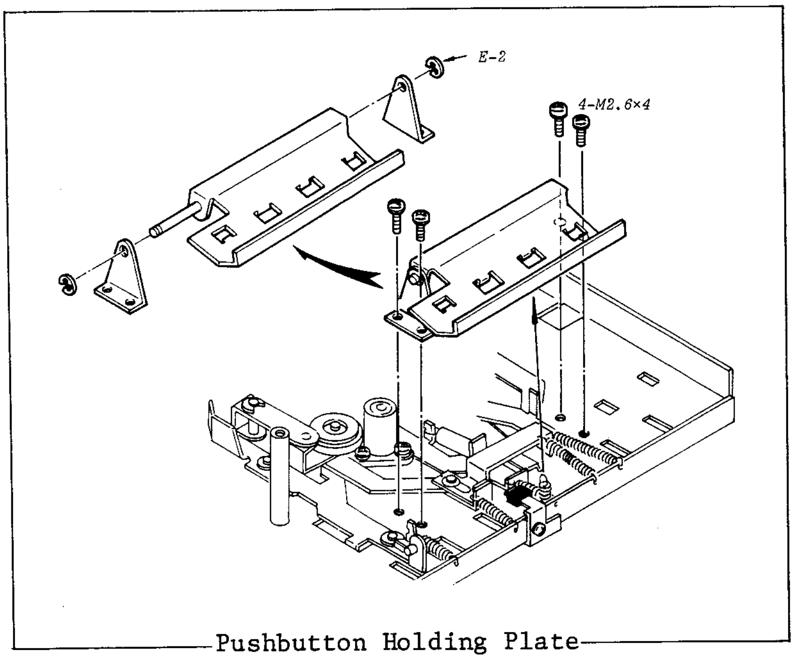
Pause(A) Lever Assy



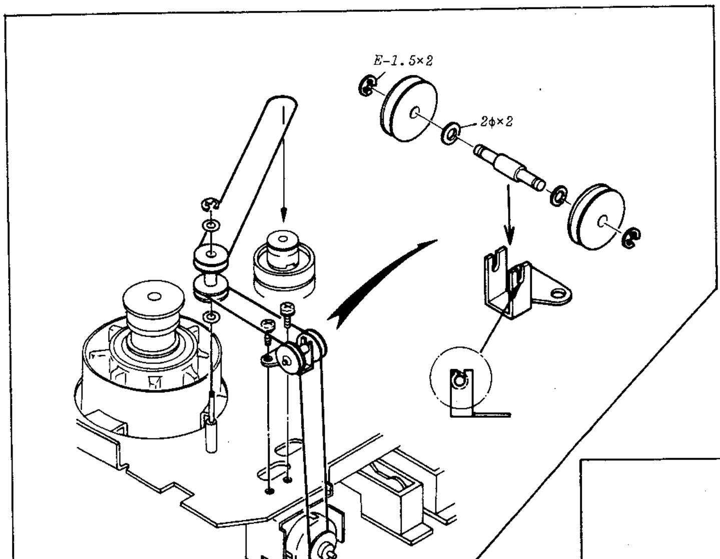
FF and REW Lever



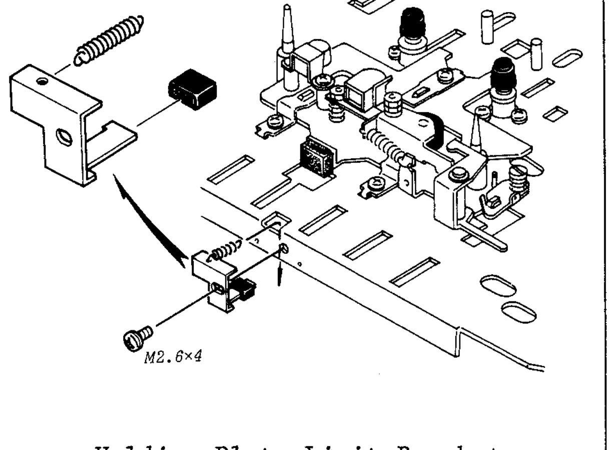
Play Lever Assy



Pushbutton Holding Plate



Twin Idler Pulley



Holding Plate Limit Bracket

FAST WIND ROLLERS

1. Remove the bottom panel after disconnecting power.
2. Depress the Forward Play button (▶) to keep the brakes released.
3. Remove the Fast Wind belt (see illustration).
4. Push down on the pulley while removing the (Ⓔ) clip from the top of the shaft.
5. Clean the entire shaft with TZ-261A.
6. Lubricate with a thin application of light machine oil (TZ-255).
7. Replace the internal spring, the washers (2) and the (Ⓔ) clip with new parts when replacing the pulley.
8. Clean the belt and all Fast Wind Roller surfaces of the Rollers before re-installing the belt.

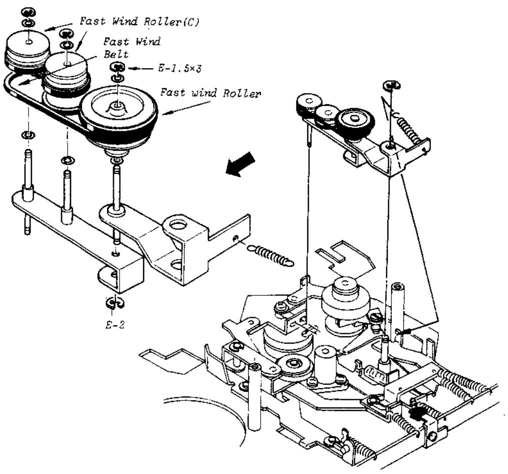


Fig. 5-6 Fast Wind Roller Removal

REEL TABLE ASSEMBLY REPLACEMENT

NOTE: Reel table assemblies are mirror images, left to right, and have different pulley functions. They are not interchangeable.

1. Remove power from the unit. Remove the top and bottom covers.
2. Remove the Capstan Belt and Flywheel (see CAPSTAN ASSEMBLY REMOVAL section).
3. For the LEFT reel table, remove the Back Tension Bracket that rides in the pulley. For the RIGHT reel table, remove the Index Counter Belt.
4. Remove the 3 screws in the table.
5. Slide out the pulley and pull out the table.

   NOTE: Always replace the complete Reel Table Assembly as an entire assembly Left or Right.

6. During reassembly, follow the complete instructions for cleaning and lubricating the Capstan Flywheel assembly. No lubrication is needed on the turntables, but clean the belts and pull leys.

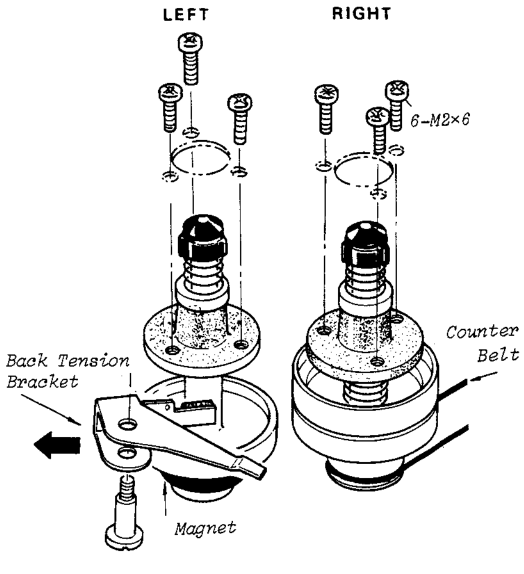


Fig. 5-7 Left/Right Reel Table Removal

6. MEASUREMENT AND ADJUSTMENT

-MECHANICAL-

NOTE

The TEAC cassette mechanism is designed to require a minimum of adjustments, checks or routine maintenance. When parts are replaced, the observation of a few simple precautions will result in satisfactory performance with a minimum of adjustments.

The following procedures are primarily performance checks. Before performing these checks a complete cleaning, demagnetization and lubrication should be accomplished as outlined in the servicing and maintenance section of this manual.

PINCH ROLLER PRESSURE

1. Attach a torque guage to the Pinch Roller Assembly as shown in Fig.6-1.
2. Pull back on the guage until the pinch roller is completely free from the capstan shaft.
3. Gradually release the tension on the guage until the pinch roller just begins to rotate. The guage should then be reading approx. 380 to 420 grams.
4. If the reading is incorrect, adjust as shown in Fig.6-1. The double nuts provide course adjustment.
5. After course adjustment, perform fine adjustment if needed for 400 g (±20 g) with "needle nose pliers". Bend the spring brace very carefully.

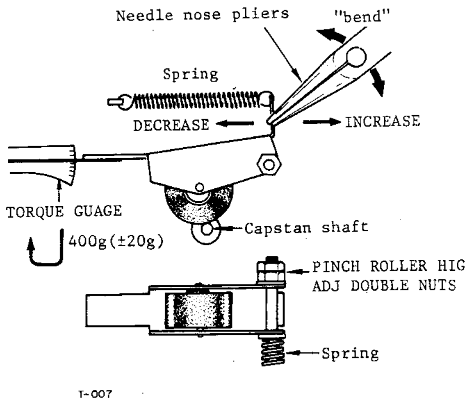


Fig. 6-1 Pinch Roller Pressure

TAKE-UP TORQUE

1. With the bottom cover removed, apply power to the unit.
2. Set an empty cassette tape hub and spring scale on the right take-up reel table.
3. Depress the Play (▶) button.
4. Allow the rotation of the reel table to draw the scale string toward the hub.
5. Scale should indicate 45∿46 g/cm.
6. If reading is incorrect, clean the idlers and reel turntable assy and repeat the test.

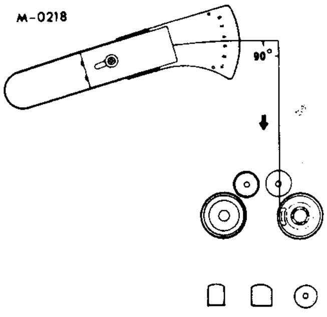


Fig. 6-2 Take-up Torque Measurement

F.FWD AND REWIND TAKE-UP TORQUE

1. With the bottom cover removed, apply power to the unit.
2. Set an empty cassette tape hub and spring scale on the right take-up reel table.
3. Depress the Fast Forward (▶▶) button. Allow the rotation of the reel table to draw the scale string toward the hub.
4. Scale should indicate 80∿150 g/cm. Rewind (◀◀) torque is the same value, measured on the left table.
5. If adjustment is needed (only when outside the limits given in step 4), bend the spring indicated in Fig. 6-3.

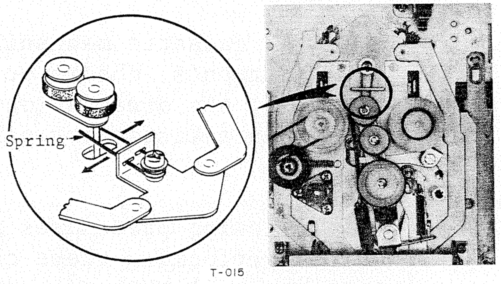


Fig. 6-3 F.FWD and Rewind Take-up Measurement

BRAKE TORQUE

If brake action is too "tight" or "loose", bend the brake arms in or out as shown by the arrows in Fig. 6-4.

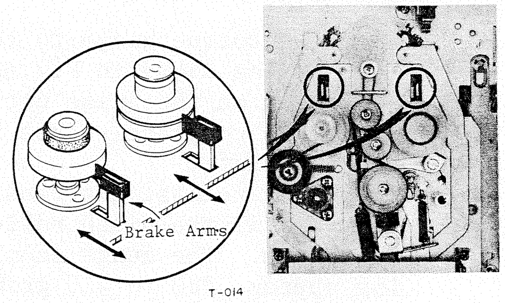


Fig. 6-4 Brake Torque Adjustment

FLUTTER AND TAPE SPEED CHECK

Before the measurement, be sure to clean the capstan, the pinch roller and the REC/PB head with a cloth or swab dampened with denatured alcohol or TEAC TZ-261A and TZ-261B, as appropriate.

1. Connect a flutter meter to one OUTPUT jack.
2. Connect a digital frequency counter to the remaining OUTPUT jack.
3. Load and playback a TEAC flutter free tape MTT-111 (3 kHz).
4. Flutter should not exceed 0.15% (RMS LINEAR) at any tape position such as full take-up reel, full supply reel or mid point.
5. Digital frequency counter should indicate between 2970 and 3030 Hz (3000 Hz ±1 %).

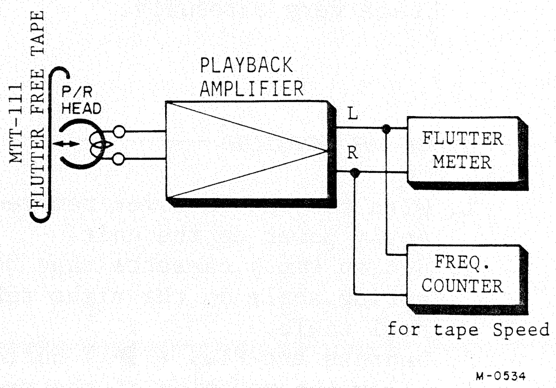


Fig. 6-5 Flutter and Tape Speed Measurement Set-up

7. LINE VOLTAGE AND FREQUENCY CONVERSION

Unit must be set to the power line frequency available. Improper frequency setting will result in a 20% error between the tape speed and reel motors torque.

VOLTAGE CONVERSION:

The A-360 (Export version) may be changed between 100, 117, 220 and 240 volts AC. To match the voltage to the local power line, remove power from the unit, then:

1. Remove the 2 screws holding the guard over the voltage Selector plug.
2. Pull out the plug and re-insert it so the desired voltage appears in the cut-out window.
3. Replace the guard.

US (TCA) 360S model is preset to 117 V AC and 60 Hz.
No frequency conversion is required.

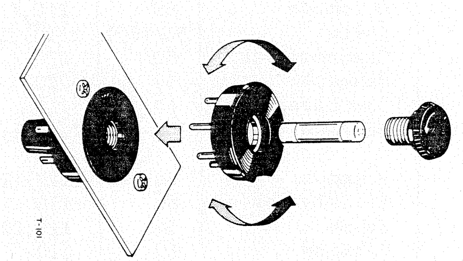
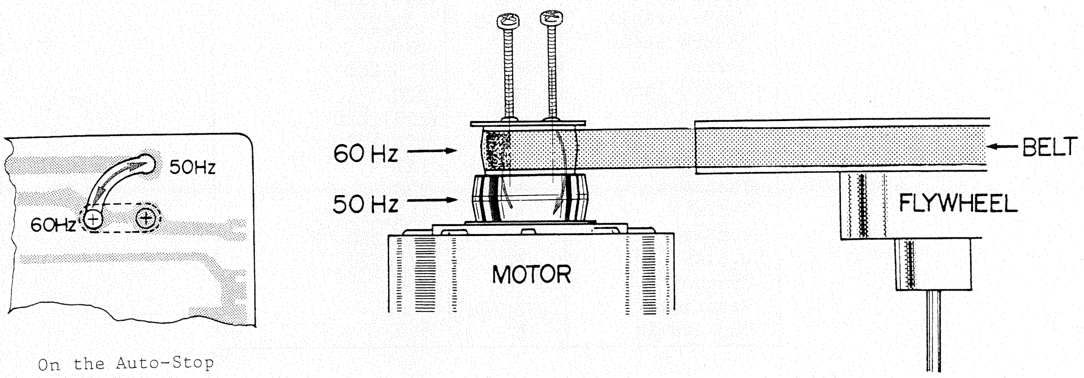


Fig. 7-1 Voltage Conversion Location

FREQUENCY CONVERSION:

1. Disconnect the power cord and remove all audio cables.
2. Remove the bottom cover, release the drive belt.
3. To convert the unit from 50 to 60 Hz, remove the 2 screws from the motor pulley and invert the pulley so that smaller diameter section is on top. For 50 Hz operation, the larger diameter section will be up.
4. Re-install the belt and verify that the belt is not riding on the lips of the pulleys.
5. The Frequency Selector bar on the Auto-Stop PC board must be re-set to the correct frequency as indicated in the illustration.



On the Auto-Stop PC Board

Fig. 7-2 Frequency Conversion Locations.

8. LIST OF LINE VOLTAGE AND CYCLE (Hz) USED AROUND THE WORLD

Name of the country	Cycle (Hz)	Voltage
Argentina	50	220
Algeria	50	127,220
Austria	50	230,240
Australia	50	220
Brazil	50/60	110,115,125,227,220
Belgium	50	110,127,220
Burma	50	230
Canada	60	110,115,120
Cuba	60	110
Costa Rica	60	120
Colombia	60	110,(115),(120)
Chile	50/(60)	(110),220
Czechoslovakia	50	220
Denmark	50	220
Dominica	60	110
England	50	(200),(210),(230),240
Ecuador	60	(110),120,127
El Salvador	60	110
Egypt	50	110,220
Formosa	60	110
Finland	50	220
France	50	110,(115),(120),(127),220

Name of the country	Cycle (Hz)	Voltage
Guatemala	60	120,(220)
Germany	50	110,120,127,220
Hungary	50	220
Honduras	60	110
Haiti	(50)/60	115,(220)
Iran	50	220
Iraq	50	220
India	50	230
Indonesia	50	110,117
Israel	50	230
Italy	50	110,(120),(127)(150),(160),220
Jamaica	50	110
Japan	50/60	100
Korea	60	100
Kenya	50	240
Lebanon	50	110,220
Luxembourg	50	110,220
Malaya	50	230
Mexico	50/60	120,127
Monaco	50	220
Morocco	50	115,127,220
Netherland	50	127,220
Nigeria	50	230
Nicaragua	60	120

Name of the country	Cycle (Hz)	Voltage
New Zealand	50	230
Norway	50	220
Okinawa	60	100
Pakistan	50	220,230
Panama	60	110,(115),(120)
Philippines	60	110,(220)
Peru	(50)/60	(110),200
Portugal	50	120,220
Poland	50	220
China	50/60	110,220
Rep.of Vietnam	50	120,127
Rumania	50	(110),220
Saudi Arabia	50/60	120,230
Sierra Leone	50	230
Syria	50	115,200
Switzerland	50	220
Sweden	50	(117),220
Spain	50	120,127
Soviet Union	50	127
Thailand	50	220
Tunisia	50	110,115,220
Turkey	50	110,220
U.S.A.	60	115,120
Uruguay	50	220
Venezuela	(50)/60	120
Yugoslavia	50	220

9. ELECTRICAL ADJUSTMENT
GENERAL NOTICE

Before performing maintenance on this unit, thoroughly clean and demagnetize the entire tape path.

TEAC maintenance equipment to be used:

TEAC TZ-261 A/B for cleaning
TEAC TZ-255 A/B for oiling
TEAC E-1 for demagnetizing

Always verify that the unit is set to the proper voltage and frequency for the local power line before applying power.

Procedures for checks and adjustments, unless otherwise indicated, are for the left channel. Repeat the same procedures for the right channel. Double number parts refer to Left channel/Right channel.

ADJUSTMENT LOCATIONS

CIRCUIT REF. NO.	DESCRIPTION
VR101/201	Playback EQ Adj.
VR102/202	Playback METER Level Adj.
VR103/203	Rec METER Level Adj.
VR104/204	PEAK METER Level Adj.
VR105/205	Playback Level Adj.
VR106/206	REC Level Adj. (CrO₂)
VR107/207	REC Level Adj. (HIGH)
VR108/208	REC Level Adj. (NORMAL)
VC101/201	BIAS Adj. (CrO₂)
VC102/202	BIAS Adj. (HIGH)
VC103/203	BIAS Adj. (NORMAL)
L106/206	BIAS TRAP
L102/202	BIAS TRAP (REC)
L103/203	REC EQ (CrO₂)
L104/204	REC EQ (HIGH)
L105/205	REC EQ (NORMAL)

Fig. 9-1 Adjustment Identification

* All Electrical Checks and Adjustments can be made from bottom with the bottom cover removed except for Head Azimuth Alignment.

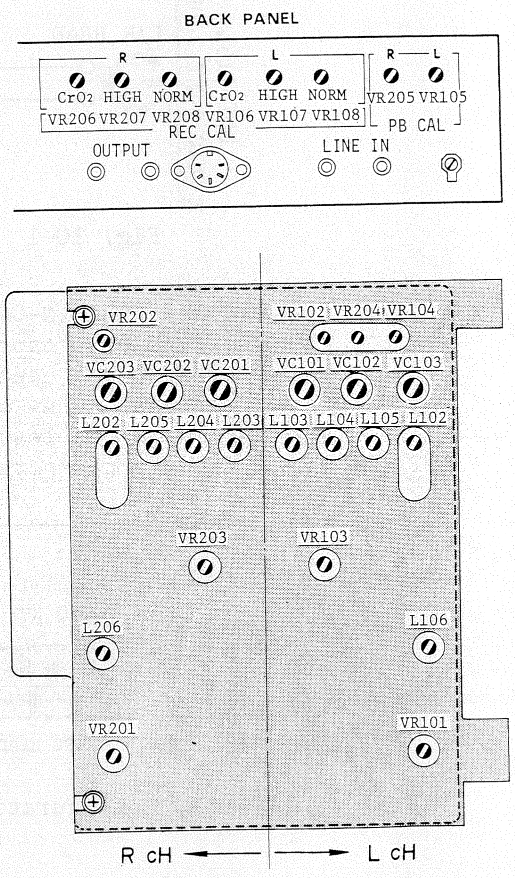
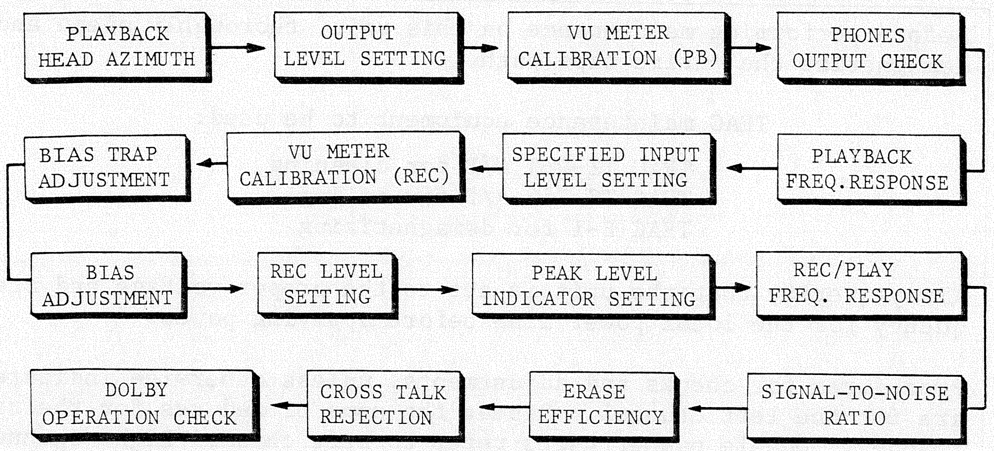

BACK PANEL
R
L
R
L
CrO2 HIGH NORM
CrO2 HIGH NORM
VR206 VR207 VR208 VR106 VR107 VR108
REC CAL
VR205 VR105
PB CAL
OUTPUT
LINE IN
VR202
VR102 VR204 VR104
VC203 VC202 VC201
VC101 VC102 VC103
L202 L205 L204 L203
L103 L104 L105 L102
VR203
VR103
L206
L106
VR201
VR101
R cH
L cH

Fig. 9-2 Adjustment Locations

10. ELECTRICAL ADJUSTMENT PROCEDURES

ADJUSTMENT SEQUENCE


PLAYBACK HEAD AZIMUTH
OUTPUT LEVEL SETTING
VU METER CALIBRATION (PB)
PHONES OUTPUT CHECK
PLAYBACK FREQ.RESPONSE
SPECIFIED INPUT LEVEL SETTING
VU METER CALIBRATION (REC)
BIAS TRAP ADJUSTMENT
BIAS ADJUSTMENT
REC LEVEL SETTING
PEAK LEVEL INDICATOR SETTING
REC/PLAY FREQ. RESPONSE
SIGNAL-TO-NOISE RATIO
ERASE EFFICIENCY
CROSS TALK REJECTION
DOLBY OPERATION CHECK

PLAYBACK HEAD AZIMUTH ADJUSTMENT

The following checks and adjustments must be performed with the MPX FILTER switch and DOLBY NR switch in the OUT position.

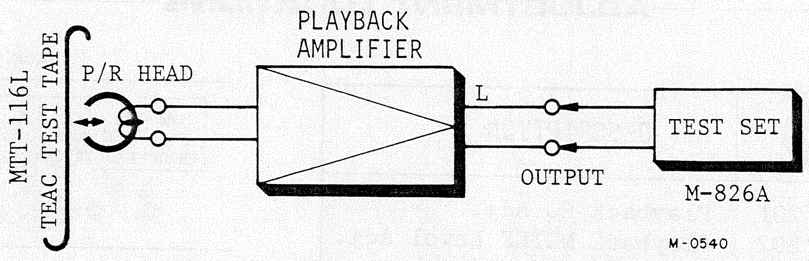

MTT-116L TEAC TEST TAPE
P/R HEAD
PLAYBACK AMPLIFIER
L
OUTPUT
TEST SET
M-826A
M-0540

Fig. 10-1 Head Azimuth Adjustment Set-up

1. Connect Test Set (M-826A) to either OUTPUT jack.
2. Place a TEAC test tape MTT-116L in the unit.
3. With OUTPUT level controls at "MAX", play the 10 kHz test signal.
4. Adjust azimuth screw on left side of PLAY/REC. head for maximum indication on the Test Set (M-826A). After adjustment is complete, secure the screw with "LOCTITE" or insulating paint.

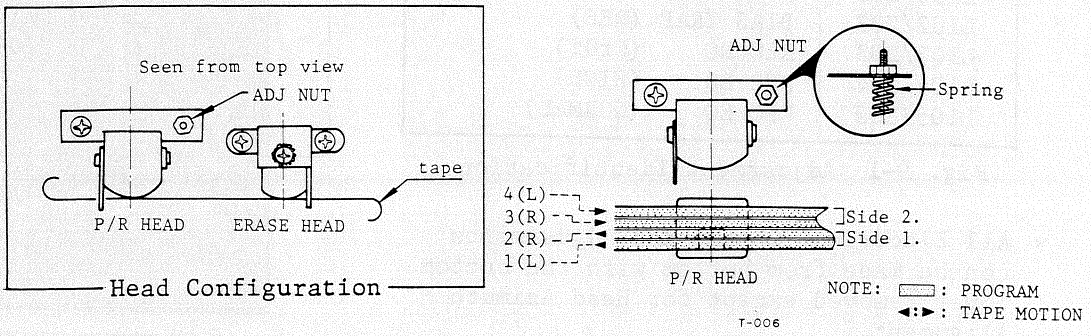

Seen from top view
ADJ NUT
tape
P/R HEAD
ERASE HEAD
Head Configuration
ADJ NUT
Spring
4(L)
3(R)
2(R)
1(L)
Side 2.
Side 1.
P/R HEAD
NOTE: ▭ : PROGRAM
◄:► : TAPE MOTION
T-006

Fig. 10-2 Adjustment Location

SPECIFIED OUTPUT LEVEL SETTING

NOTE: Connect a 10 kΩ load to the OUTPUT jacks for all audio measurement when not using TEAC M-826A (0dB=0.775V) Test Set.

1. Place the DOLBY NR switch to the OUT, EQ switch may be in HIGH or NORMAL position.
2. Place the TEAC Test Tape MTT-150 in the unit. This tape will apply a 400 Hz Dolby tone signal at operating reference level (1% of the THD level).
3. Adjust PB GAIN VR-105/205 for approx. 100 mV at the CAL (test) point on the DOLBY PC board, using a VTVM (IMP. 100 kΩ or over).
4. Slide the OUTPUT level controls to maximum and check for -3.5 dB ±0.5 dB at the OUTPUT jacks. (This is check only. No adjustments are made.)
5. Readjust OUTPUT level controls for a -5 dB output level at OUTPUT jacks. This is the Specified Output Level.

During the following checks and adjustments, always keep 100 mV at the DOLBY CAL (test) points.

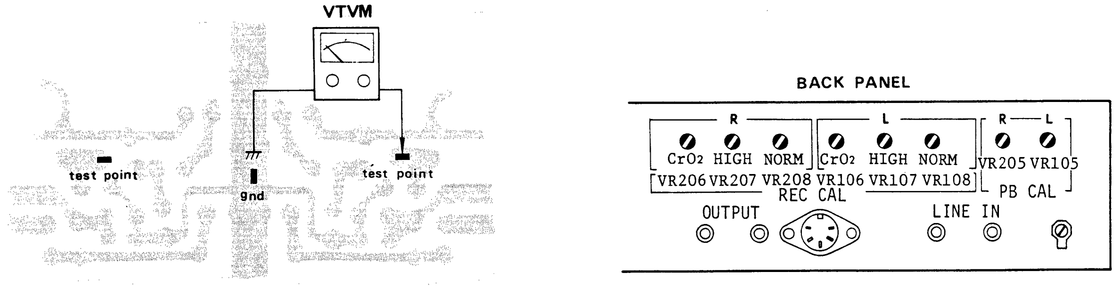

VTVM
test point
gnd
test point
BACK PANEL
R
L
R
L
CrO2 HIGH NORM
CrO2 HIGH NORM
VR206 VR207 VR208
VR106 VR107 VR108
VR205 VR105
REC CAL
PB CAL
OUTPUT
LINE IN

Fig. 10-3 100 mV Test Point and Adjustment Location

VU METER CALIBRATION (PB)

6. While playing the 400 Hz Dolby tone (1% THD) in section 1 of the Test tape
7. adjust PB M VR-102/202 for a reading of +3 VU (☐☐) on the VU meter.

PHONES OUTPUT CHECK

1. Keep the OUTPUT level controls at the specified level setting (400 Hz signal for -5 dB).
2. Connect an 8Ω non-inductive resistor across the headphone output. Connect Test Set across the resistor.
3. Test Set should indicate -24 dB ±2 dB. No adjustment provided.

FREQUENCY RESPONSE

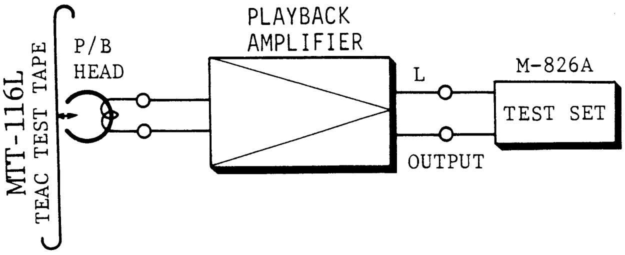


Fig. 10-4 Frequency Response Check Set-up

1. Place the Test Tape MTT-116L in the unit.
2. Compare the readings obtained on the Test Set with response limits given below.
3. If adjustment is required, adjust HIGH LEVEL VR-101/201. EQ switch may be in NORMAL and HIGH position.

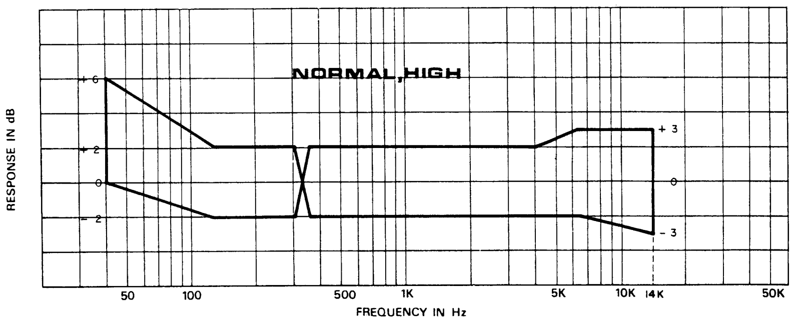


Fig. 10-5 Frequency Response Limits
-Playback-

MINIMUM INPUT LEVEL SETTING

Line Input:

1. Connect an AF oscillator to the LINE IN jacks, insert MTT-501 recording Test Tape.
2. Place Bias and EQ switches to NORMAL, and select "PAUSE" mode.
3. Depress REC and (▶) button.
4. Apply a 400 Hz signal -15 dB (±2) to LINE IN jacks.
5. Set RECORD Level controls maximum, then retard the RECORD Level controls to obtain the Specified Output Level of -5 dB at the OUTPUT jacks.

Mic Input:

6. After setting the RECORD Level controls, apply a 400 Hz signal at -67 dB (±2) to the MIC IN jacks.
7. The OUTPUT should be -5 dB (Specified Output Level).

SPECIFIED INPUT LEVEL SETTING

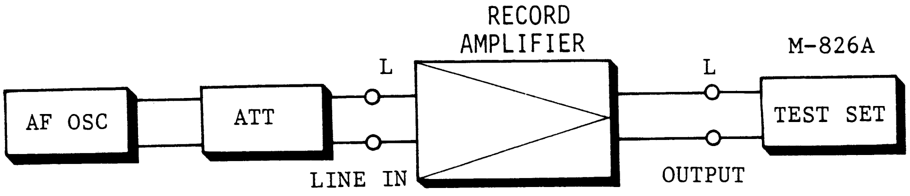


Fig. 10-6 Specified Input Level Set-up

8. Apply a 400 Hz signal at -5 dB to the LINE IN jacks.
9. Slide the RECORD Level controls for a -5 dB reading on the Test Set (M-826A).

NOTE: Do not disturb the specified input level position of these controls until the remaining checks and adjustment are completed.
The difference between the channels must not exceed ±2 dB as indicated on the Test Set. If it is not within limits, check the amplifier gain, the LINE controls.

VU METER LEVEL CALIBRATION (REC)

10. Place the unit in the record mode.
    Apply a 400 Hz signal at -5 dB to the LINE IN jacks.
11. With a VTVM check for 100 mV at the DOLBY CAL (test) point.
12. Adjust REC METER VR-103/203 for +3 VU (DD) on the VU meters.

BIAS TRAP ADJUSTMENT

NOTE: The bias trap tank circuit keeps the bias signal from reaching the record and monitor amplifier and under normal "no signal" conditions, voltage should not be present at the OUTPUT jacks.

1. Place BIAS and EQ switches to HIGH, and select "PAUSE" mode.
2. Depress REC and (▶) button.
3. Connect a VTVM or oscilloscope across the hot side of L-102/202 and ground.
4. Adjust L-102/202 for minimum reading.

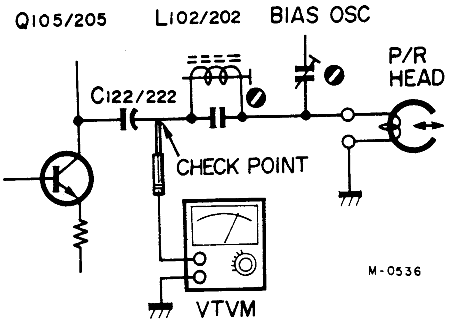


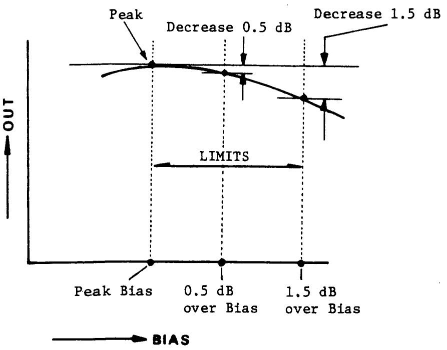
Fig. 10-7 Bias Trap Check Point Set-up

BIAS ADJUSTMENT

Adjust bias trap (above) before proceeding.
The bias oscillator frequency is 100 kHz (±10 kHz).

1. Apply a 1 kHz signal to both LINE IN jacks at -15 dB (10 dB below the Specified Input Level). Record this signal.
2. Rewind the tape to the starting point and playback the recorded signal. Note the Output Level for each channel indicated on the Test Set.
3. Make tentative changes in the settings of each BIAS ADJ VC. Record and then playback at the new settings. Observe the Output levels during playback on the Test Set.
4. Continue this process of adjusting - recording - playing back (as above) until a peak output reading is obtained. [At the "peak output" settings, either a clockwise or Counterclockwise change to the setting of a VC will result in a decrease in the OUTPUT reading.]
5. Reset the bias for the optimum point by turning the BIAS ADJ VCs clockwise (↻) until the "adjust - record - playback" process shows a 0.5 dB decrease from the peak output reading of step 4.
6. Record frequencies of 1 kHz and 10 kHz at -38 dB (33 dB below the Specified Input Level). Playback the recordings and check for identical output levels at both frequencies.
7. Adjust the BIAS ADJ VCs as needed, using the "adjust - record - playback" process to obtain this balanced response between the two frequencies.

NOTE: After balancing the response in steps 6 and 7, the Bias Level as set in step 5 must still be within the tolerance indicated in the figures below, i.e., past the Peak Bias point but no further than 1.5 dB below the peak as indicated in the Output level.



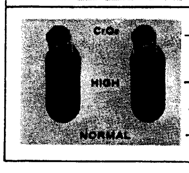
BIAS EQ		TEST TAPE	BIAS ADJ VC
	→	MTT-505	101/201
	→	MTT-501	102/202
	→	MTT-502R	103/203

Fig. 10-8 Over Bias Limits Chart.

REC LEVEL SETTING

NOTE: The OUTPUT controls must be at the specified output position (-5 dB at the OUTPUT jacks).

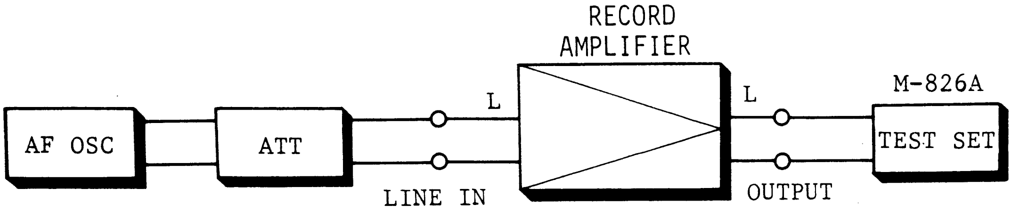


Fig. 10-9 Record Level Set-up

CrO_2 tape position:

1. Insert TEAC Test Tape MTT-505 in the unit, set BIAS and EQ switches to the CrO_2 position.
2. Place the unit in the Record mode with PAUSE engaged.
3. Apply a 400 Hz signal at -5 dB to the LINE IN jack.
4. Adjust the RECORD Level controls for -5 dB at the OUTPUT jacks.
5. Release the PAUSE control and record about 10 seconds of this signal.
6. Rewind the tape. During playback, check for a -5 dB output.
7. If incorrect, adjust REC CAL VR-106/206 as necessary. Repeat steps 5 through 7 until the -5 dB output is obtained during playback.

HIGH tape position:

Test Tape ·············· MTT-501
BIAS, EQ switches ······ HIGH
Adjust REC CAL VR-107/207 as in CrO_2 position

NORMAL tape position:

Test Tape ·············· MTT-502R
BIAS, EQ switches ······ NORMAL
Adjust REC CAL VR-108/208 as in CrO_2 position

PEAK LEVEL INDICATOR SETTING

1. Place the unit in RECORD/PAUSE mode with the R-ch OUTPUT and RECORD controls at "MIN" and L-ch OUTPUT control at the specified Output Level (-5 dB) setting.
2. Apply a 400 Hz signal at -5 dB to the L-ch LINE IN jack only. Adjust the L-ch RECORD control for exactly -5 dB at the OUTPUT jacks.
3. Increase the L-ch RECORD control for a +3 dB increase in output (-2 dB reading). Adjust VR-104 so that the peak level indicator just begins illuminate.
4. Reduce the input signal level to -4 dB, the PEAK LEVEL indicator should extinguish.

REC/ PLAY FREQUENCY RESPONSE

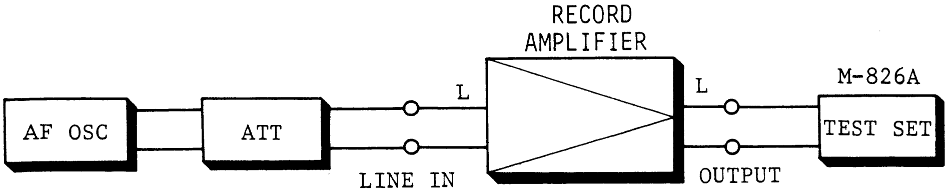


Fig. 10-10 Overall Frequency Response Check Set-up

CrO$_2$ tape position

1. Place a blank MTT-505 tape in the unit, place BIAS and EQ switches to the CrO$_2$ position.
2. Apply a signal swept from 30 Hz to 14 kHz at -33 dB below the Specified input level to LINE IN jacks and record it on the test tape and playback.
3. Adjust L-103/203 for best overall response during playback.

HIGH tape position

Test Tape ············ MTT-501
BIAS, EQ switches ····· HIGH
Apply a signal ········ 30 Hz to 13 kHz
Adjust L-104/204 for best response

NORMAL tape position

Test Tape ············ MTT-502R
BIAS, EQ switches ····· NORMAL
Apply a signal ········ 40 Hz to 10 kHz
Adjust L-105/205 for best response

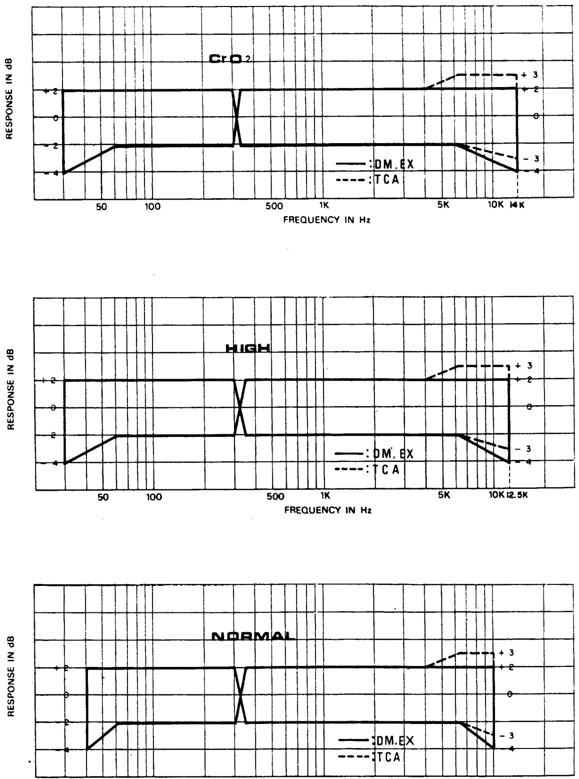


Fig. 10-11 Frequency Response Limits
-Record-

NOTE: If still unsatisfactory, adjust variable capacitor VC-103/203 for NORMAL, VC-102/202 for HIGH, and VC-101/201 for CrO$_2$.

SIGNAL-TO-NOISE RATIO CHECK

The following check must be performed with EQ switch at NORMAL and MPX FILTER SW "ON" position.

PLAYBACK

IMPORTANT

OUTPUT controls should be at the Specified Output level settings. The signal-to-noise ratio must meet factory standards. The values given are obtained using an unweighted Test Set (M-826A). The values are with reference to a 3% THD peak recording level.

1. Insert a blank MTT-150 tape in the unit.
2. Place the unit in the PLAY (▶) and PAUSE mode.
3. The Test Set connected to the OUTPUT jacks should indicate -52 dB or less.
4. This corresponds to a signal-to-noise ratio of 47 dB (difference between residual noise -52 dB and specified output level -5 dB for 1% THD). For a 3% THD signal-to-noise ratio, 6 dB is added, giving 53 dB (3% THD is 6 dB above 1% THD level).

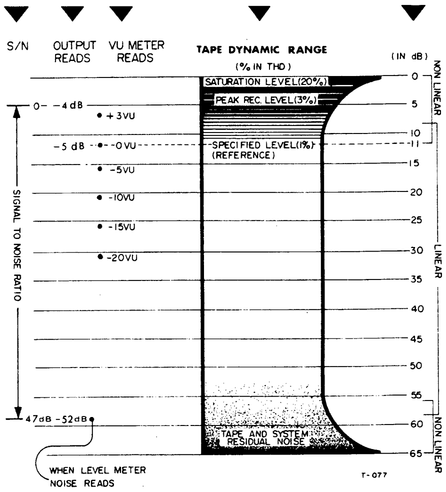

S/N
OUTPUT READS
VU METER READS
TAPE DYNAMIC RANGE
(% IN THD)
(IN dB)
SATURATION LEVEL(20%)
PEAK REC. LEVEL(3%)
0- -4 dB
• +3VU
-5 dB •-0VU
SPECIFIED LEVEL(1%)
(REFERENCE)
• -5VU
• -10VU
• -15VU
• -20VU
SIGNAL TO NOISE RATIO
47dB -52dB•
TAPE AND SYSTEM RESIDUAL NOISE
WHEN LEVEL METER NOISE READS
0
5
10
11
15
20
25
30
35
40
45
50
55
60
65
NON LINEAR
LINEAR
NON LINEAR
T-077

Fig. 10-12 Signal/Noise Computation

OVERALL(with DOLBY OUT)

IMPORTANT

Clean and demagnetize the head before proceeding. It is extremely important that all tests described in the preceding paragraphs have been completed and that all controls are left at their specified settings.

1. Record a 1 kHz signal at 0 VU recording level for approximately 30 seconds. Note the point on the index counter where the recording begins.
2. Remove the AF oscillator from the LINE IN jacks. Rewind the tape to the starting point.
3. Place the unit in the record mode with "no signal" applied. "Record" over the same section again.
4. Rewind the tape deck to the beginning point again.
5. During playback, the noise level as indicated on the Test Set (M-826A) should be -50 dB or less.

CROSS TALK REJECTION

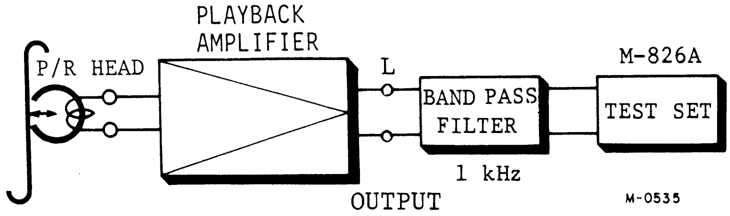


Fig. 10-13 Cross Talk Rejection Check Set-up

-Between channels-

NOTE: To check cross talk, a 1 kHz narrow Band Pass Filter (TEAC M-206) must be used.

1. Apply 1 kHz at -5 dB (specified level) into the left channel (LINE IN L).
2. Connect shorting plug to R (right channel) LINE IN jack.
3. Record 30 seconds of the 1 kHz signal.
4. Rewind the tape to the start of the 1 kHz signal recording.
5. Connect a Test Set (M-826A) to OUTPUT R jack, through the 1 kHz narrow Band Pass Filter.
6. Play the "no signal recorded" track of the tape (R channel), the Test Set should indicate -30 dB or less.

-Adjacent track-

NOTE: TEAC M-206 Filter is not required for this check.

1. Load unit with bulk-erased record test tape.
2. Apply 125 Hz at -5 dB into the R (right) LINE IN.
3. Connect the test set to R OUTPUT jack.
4. Make a recording of 30 seconds of 125 Hz signal.
5. Invert the cassette and playback. The test set should read -40 dB or less.

ERASE EFFICIENCY

1. Apply 1 kHz signal of 0 dB to the LINE IN jack. Record this signal. Rewind the tape and remove the input connections.
2. Place the unit in record mode and "record" over this portion of tape again.
3. Rewind the tape to the starting point and connect the test set to the OUTPUT jack through the 1 kHz Band Pass Filter.
4. Play the erase portion of the tape, and check for -65 dB or less.

DOLBY OPERATION CHECK

1. Remove bottom panel. Engage the RECORD mode and "PAUSE".
2. Place the MPX FILTER switch IN, DOLBY NR switch OUT position.
3. With TP-3 chassis grounded, connect the VTVM across.

   TP-1 and TP-3 for the Left channel
   TP-2 and TP-3 for the Right channel

4. Ground the FET GATE points (L or R) on the Dolby Amplifier PC board with a jumper wire (see Fig. 10-14 below Adjustment Locations).
5. Apply a 5 kHz signal at 0 dB from the Test Set (M-826A) to the LINE IN jacks.
6. Adjust the RECORD Level Controls or ATT (M-826A) to obtain a reading of 3 mV on the VTVM.
7. Remove jumper wire from T.P. (1 or 2), connect it to C-710 (C-810) (-) side. This value represents 0 dB (reference level).
8. Change the DOLBY NR switch to IN. The Test Meter should indicate 10 dB.

   If adjustment is required: GAIN VR702 (VR802) with LAW VR at maximum.

9. Remove the FET GATE jumper leads. Test Set (M-826A) should decline by 2 dB (±0.25 dB). If adjustment is required, LAW VR 701 (VR 801).

NOTE

This completes the Playback Characteristics check for both L and R channels. This adjustment should only be performed by skilled Service engineers.

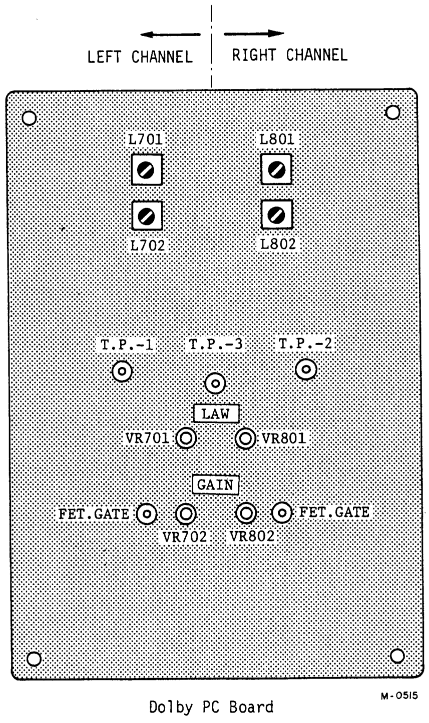

LEFT CHANNEL
RIGHT CHANNEL
L701
L801
L702
L802
T.P.-1
T.P.-3
T.P.-2
LAW
VR701
VR801
GAIN
FET.GATE
VR702
VR802
FET.GATE
Dolby PC Board
M-0515

Fig. 10-14 Adjustment Locations

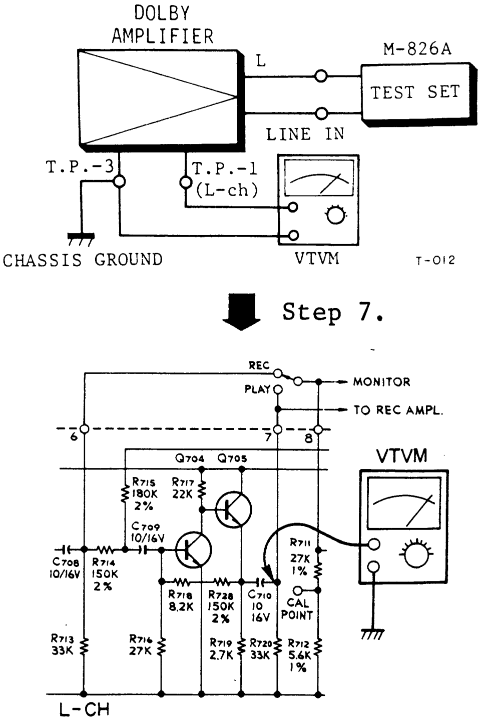

DOLBY AMPLIFIER
L
M-826A
TEST SET
LINE IN
T.P.-3
T.P.-1 (L-ch)
CHASSIS GROUND
VTVM
T-012
Step 7.
REC
PLAY
MONITOR
TO REC AMPL.
6
7
8
Q704
Q705
VTVM
R715 180K 2%
R717 22K
C709 10/16V
C708 10/16V
R714 150K 2%
R711 27K 1%
R718 8.2K
R728 150K 2%
C710 10 16V
CAL POINT
R713 33K
R716 27K
R719 2.7K
R720 33K
R712 5.6K 1%
L-CH

Fig. 10-15 Check Set-up

11. TROUBLESHOOTING

MECHANICAL

MALFUNCTION	POSSIBLE SOURCE
1. Fuse burns out (blows) when power is applied	Power transformer defective
2. End-of-tape Auto-stop faulty	
a) Unit inoperative in Fwd Play or Fast Forward AND	Check S-401 and S-402; then evaluate the following conditions
• MEMORY REWIND is normal	Magnet on reel table incorrectly mounted
• No B+ voltage between SCR - A and GND	D-303 or R-304 defective
• Solenoid not functioning; short between SCR-A/GND SCR-K; B+ across SCR-A/GND	Check S-402, C-302, solenoid
• Short between SCR-A and GND	Defective SCR
• Q-305 I_b correct, approx. 1V	Check Q-305 and associated parts
• Q-305 I_b incorrect	Check Q-303, Q-304, associated parts
b) MEMORY REWIND * Stop is abnormal	S-308, S-404, R-318, counter assy
3. Wow and flutter is excessive	Defective Pinch Roller or incorrect pressure; faulty capstan belt; oil on drive surfaces; need lubrication.
4. Capstan shaft fails to rotate	Capstan belt off; defective motor
5. Counter fails to rotate	Faulty re-set button; counter belt off

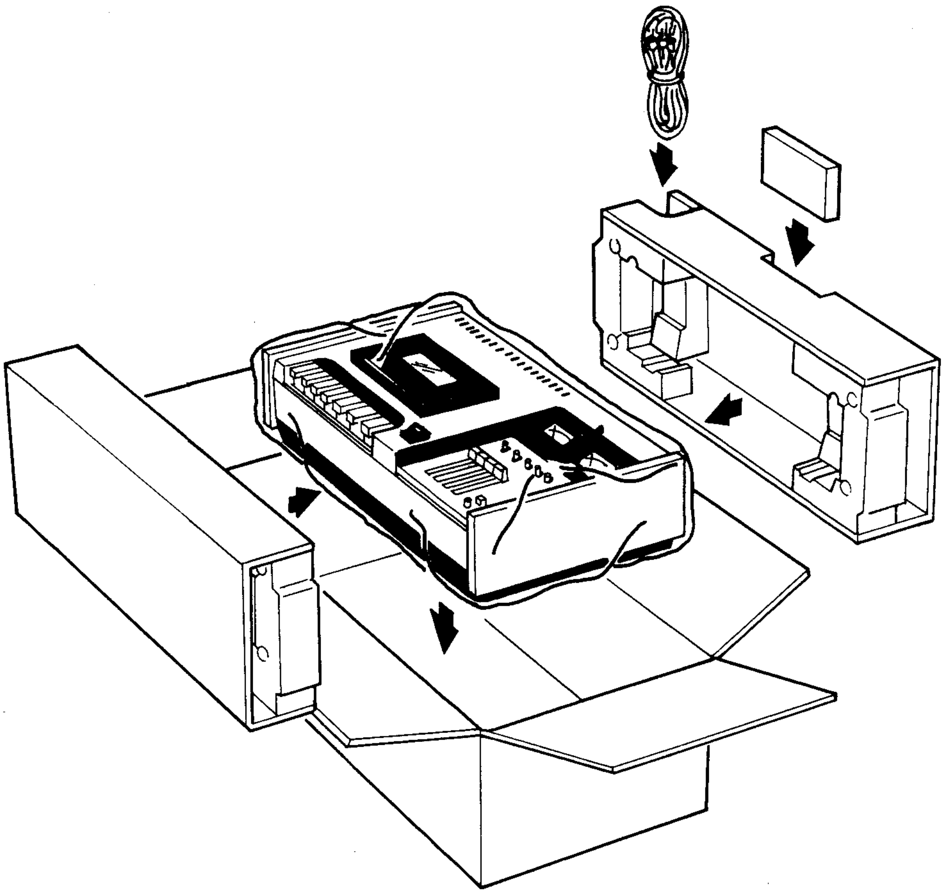
ELECTRICAL

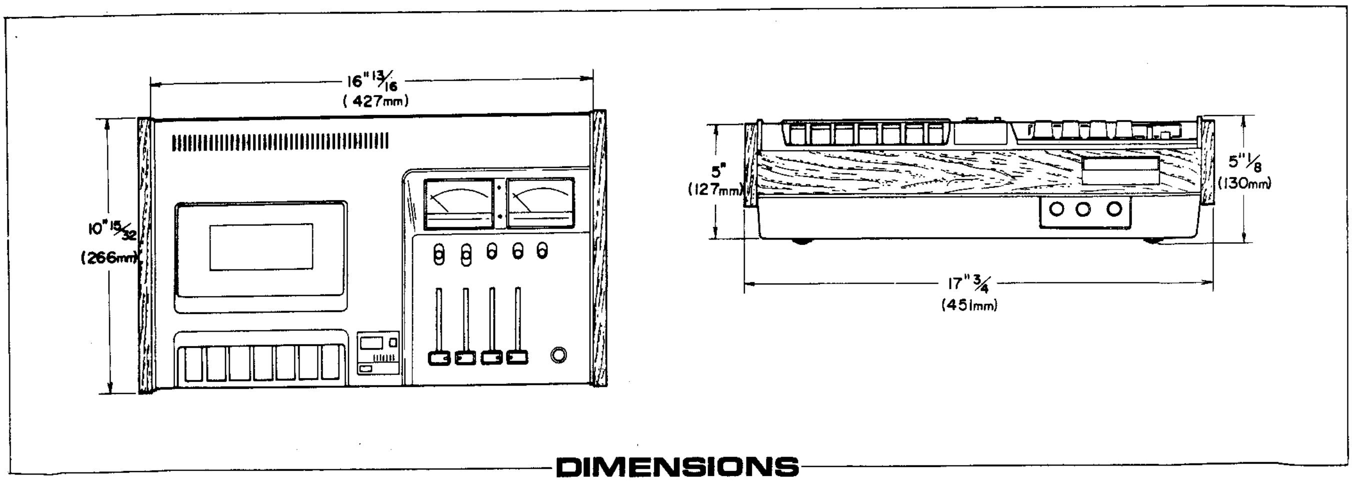
MALFUNCTION	POSSIBLE SOURCE
1. Playback audio intermittent or absent WITH	Q-101, Q-102, or associated parts, OR
a) Record monitor normal	S-101
b) Record monitor inoperative	Q-103 or associated parts, Dolby Ampl. PC Board, S-401
2. VU Meter inoperative in Play	Meter, Q-104, S-101, VR-102, associated parts
3. High frequencies weak or missing in Playback	Q-102, EQ circuitry, dirty head, tape travel faulty, poor tape-to-head contact
4. Record audio intermittent or absent WITH	BIAS switch, VR-104, VR-107, VR-108
a) faulty erase action	Bias oscillator circuit
b) normal erasing	Dirty heads, Q-105, Q-106, S-101, Q-101, Q-102, Q-103, associated parts, Dolby Ampl. PC Board

NOTE: Reference numbers given for the Amplifier section are Left channel designations. Refer to the schematic diagrams Right channel reference numbers.

12. PACKING FOR SHIPMENT

Keep this Carton Box and its packing materials. For shipping, re-pack as shown in the illustration.

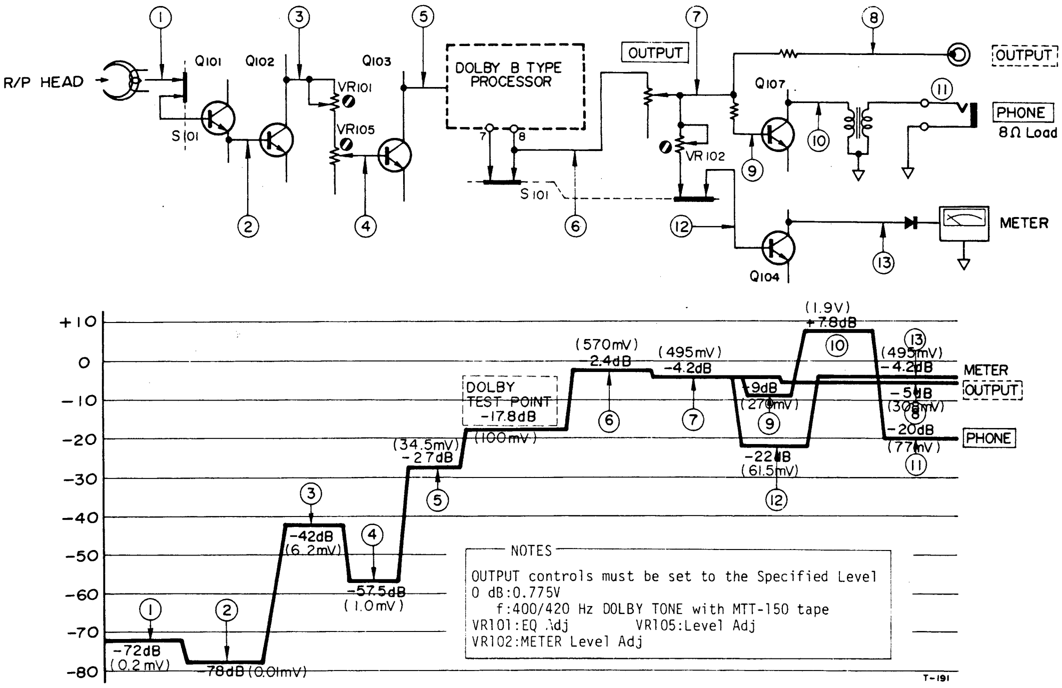



16" 13/16
(427mm)
10" 15/32
(266mm)
5"
(127mm)
5" 1/8
(130mm)
17" 3/4
(451mm)

DIMENSIONS

13. LEVEL DIAGRAM

PLAY BACK

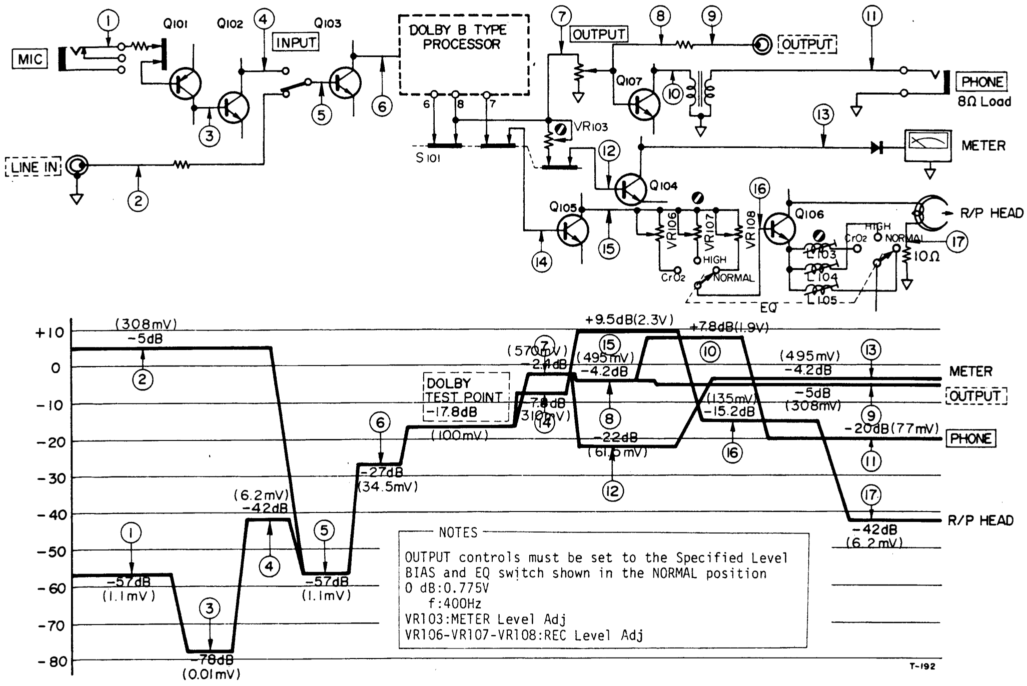


R/P HEAD
Q101
Q102
Q103
Q104
Q107
S101
VR101
VR105
VR102
DOLBY B TYPE PROCESSOR
OUTPUT
PHONE
8Ω Load
METER
+10
0
-10
-20
-30
-40
-50
-60
-70
-80
-72dB (0.2mV)
-78dB (0.01mV)
-42dB (6.2mV)
-57.5dB (1.0mV)
(34.5mV) -27dB
DOLBY TEST POINT -17.8dB (100mV)
(570mV) 2.4dB
(495mV) -4.2dB
-9dB (270mV)
-22dB (61.5mV)
(1.9V) +7.8dB
(495mV) -4.2dB
-5dB (308mV)
-20dB (77mV)
T-191

NOTES

OUTPUT controls must be set to the Specified Level
0 dB:0.775V
f:400/420 Hz DOLBY TONE with MTT-150 tape
VR101:EQ Adj VR105:Level Adj
VR102:METER Level Adj

RECORD



MIC
LINE IN
Q101
Q102
Q103
Q104
Q105
Q106
Q107
INPUT
DOLBY B TYPE PROCESSOR
OUTPUT
PHONE
8Ω Load
METER
R/P HEAD
S101
VR103
VR106
VR107
VR108
HIGH
CrO2
NORMAL
EQ
L103
L104
L105
10Ω
+10
0
-10
-20
-30
-40
-50
-60
-70
-80
(308mV) -5dB
-57dB (1.1mV)
-78dB (0.01mV)
(6.2mV) -42dB
-57dB (1.1mV)
-27dB (34.5mV)
DOLBY TEST POINT -17.8dB (100mV)
(570mV) 2.4dB
-7.8dB (310mV)
+9.5dB(2.3V)
(495mV) -4.2dB
+7.8dB(1.9V)
-22dB (61.5mV)
(135mV) -15.2dB
(495mV) -4.2dB
-5dB (308mV)
-20dB(77mV)
-42dB (6.2mV)
T-192

NOTES

OUTPUT controls must be set to the Specified Level
BIAS and EQ switch shown in the NORMAL position
0 dB:0.775V
f:400Hz
VR103:METER Level Adj
VR106-VR107-VR108:REC Level Adj

14. TEAC DECIBEL TABLE

1	.774	0 db	1	.774	0 db	1	.774	0db	1	.774	0 db	1	.774	0 db	1	.774	0 db	1	.774	0 db	1	179.	126.	89.4	63.2
																			600Ω			32Ω	16Ω	8 Ω	4 Ω
.944	.730	120.5	9.44	7.30	100.5	94.4	73.0	80.5	944	730	60.5	9.44	7.30	40.5	94.4	73.0	20.5	.944	.730	0.5	.891	169	119	83.9	59.6
.891	.690	121	8.91	6.90	101	89.1	69.0	81	891	690	61	8.91	6.90	41	89.1	69.0	21	.891	.690	1	.794	159	112	79.3	56.3
.841	.651	121.5	8.41	6.51	101.5	84.1	65.1	81.5	841	651	61.5	8.41	6.51	41.5	84.1	65.1	21.5	.841	.651	1.5	.708	150	106	74.9	53.1
.794	.615	122	7.94	6.15	102	79.4	61.5	82	794	615	62	7.94	6.15	42	79.4	61.5	22	.794	.615	2	.631	142	100	70.7	50.2
.750	.580	122.5	7.50	5.80	102.5	75.0	58.0	82.5	750	580	62.5	7.50	5.80	42.5	75.0	58.0	22.5	.750	.580	2.5	.562	134	94.5	66.7	47.3
.707	.548	123	7.07	5.48	103	70.7	54.8	83	707	548	63	7.07	5.48	43	70.7	54.8	23	.707	.548	3	.501	126	89.3	63.0	44.7
.668	.517	123.5	6.68	5.17	103.5	66.8	51.7	83.5	668	517	63.5	6.68	5.17	43.5	66.8	51.7	23.5	.668	.517	3.5	.447	119	84.3	59.4	42.2
.630	.488	124	6.30	4.88	104	63.0	48.8	84	630	488	64	6.30	4.88	44	63.0	48.8	24	.530	.488	4	.398	113	79.5	56.1	39.8
.596	.461	124.5	5.96	4.61	104.5	59.6	46.1	84.5	596	461	64.5	5.96	4.61	44.5	59.6	46.1	24.5	.596	.461	4.5	.355	106	75.1	53.0	37.6
.562	.435	125	5.62	4.35	105	56.2	43.5	85	562	435	65	5.62	4.35	45	56.2	43.5	25	.562	.435	5	.316	100	70.9	50.0	35.5
.531	.411	125.5	5.31	4.11	105.5	53.1	41.1	85.5	531	411	65.5	5.31	4.11	45.5	53.1	41.1	25.5	.531	.411	5.5	.282	94.9	67.0	47.3	33.5
.501	.388	126	5.01	3.88	106	50.1	38.8	86	501	388	66	5.01	3.88	46	50.1	38.8	26	.501	.388	6	.251	89.6	63.2	44.6	31.7
.473	.366	126.5	4.73	3.66	106.5	47.3	36.6	86.5	473	366	66.5	4.73	3.66	46.5	47.3	36.6	26.5	.473	.366	6.5	.224	84.5	59.6	42.1	29.9
.446	.345	127	4.46	3.45	107	44.6	34.5	87	446	345	67	4.46	3.45	47	44.6	34.5	27	.446	.345	7	.199	79.7	56.2	39.7	28.1
.422	.326	127.5	4.22	3.26	107.5	42.2	32.6	87.5	422	326	67.5	4.22	3.26	47.5	42.2	32.6	27.5	.422	.326	7.5	.178	75.3	53.1	37.5	26.6
.398	.308	128	3.98	3.08	108	39.8	30.8	88	398	308	68	3.98	3.08	48	39.8	30.8	28	.398	.308	8	.158	71.1	50.2	35.4	25.1
.376	.290	128.5	3.76	2.90	108.5	37.6	29.0	88.5	376	290	68.5	3.76	2.90	48.5	37.6	29.0	28.5	.376	.290	8.5	.141	67.0	47.3	33.3	23.7
.354	.274	129	3.54	2.74	109	35.4	27.4	89	354	274	69	3.54	2.74	49	35.4	27.4	29	.354	.274	9	.125	63.3	44.7	31.5	22.3
.335	.259	129.5	3.35	2.59	109.5	33.5	25.9	89.5	335	259	69.5	3.35	2.59	49.5	33.5	25.9	29.5	.335	.259	9.5	.112	59.8	42.2	29.8	21.1
.316	.244	130	3.16	2.44	110	31.6	24.4	90	316	244	70	3.16	2.44	50	31.6	24.4	30	.316	.244	10	.100	56.4	39.8	28.1	19.9
.298	.232	130.5	2.98	2.32	110.5	29.8	23.2	90.5	298	232	70.5	2.98	2.32	50.5	29.8	23.2	30.5	.298	.232	10.5	.0891	53.6	37.0	26.7	18.9
.281	.218	131	2.81	2.18	111	28.1	21.8	91	281	218	71	2.81	2.18	51	28.1	21.8	31	.281	.218	11	.0794	50.3	35.5	25.1	17.8
.265	.205	131.5	2.65	2.05	111.5	26.5	20.5	91.5	265	205	71.5	2.65	2.05	51.5	26.5	20.5	31.5	.265	.205	11.5	.0708	47.3	33.4	23.6	16.7
.251	.194	132	2.51	1.94	112	25.1	19.4	92	251	194	72	2.51	1.94	52	25.1	19.4	32	.251	.194	12	.0631	44.8	31.6	22.3	15.8
.237	.183	132.5	2.37	1.83	112.5	23.7	18.3	92.5	237	183	72.5	2.37	1.83	52.5	23.7	18.3	32.5	.237	.183	12.5	.0562	42.3	29.8	21.0	14.9
.223	.173	133	2.23	1.73	113	22.3	17.3	93	223	173	73	2.23	1.73	53	22.3	17.3	33	.223	.173	13	.0501	40.0	28.2	19.9	14.1
211	.163	133.5	2.11	1.63	113.5	21.1	16.3	93.5	211	163	73.5	2.11	1.63	53.5	21.1	16.3	33.5	.211	.163	13.5	.0447	37.6	26.6	18.7	13.3
.199	.154	134	1.99	1.54	114	19.9	15.4	94	199	154	74	1.99	1.54	54	19.9	15.4	34	.199	.154	14	.0398	35.6	25.1	17.7	12.6
.188	.145	134.5	1.88	1.45	114.5	18.8	14.5	94.5	188	145	74.5	1.88	1.45	54.5	18.8	14.5	34.5	.188	.145	14.5	.0355	33.5	23.6	16.7	11.8
.177	.137	135	1.77	1.37	115	17.7	13.7	95	177	137	75	1.77	1.37	55	17.7	13.7	35	.177	.137	15	.0316	31.6	22.3	15.7	11.2
.168	.130	135.5	1.68	1.30	115.5	16.8	13.0	95.5	168	130	75.5	1.68	1.30	55.5	16.8	13.0	35.5	.168	.130	15.5	.0282	30.0	21.2	14.9	10.6
.158	.122	136	1.58	1.22	116	15.8	12.2	96	158	122	76	1.58	1.22	56	15.8	12.2	36	.158	.122	16	.0251	28.2	19.9	14.0	9.55
.150	.116	136.5	1.50	1.16	116.5	15.0	11.6	96.5	150	116	76.5	1.50	1.16	56.5	15.0	11.6	36.5	.150	.116	16.5	.0224	26.8	18.9	13.3	9.46
.141	.109	137	1.41	1.09	117	14.1	10.9	97	141	109	77	1.41	1.09	57	14.1	10.9	37	.141	.109	17	.0199	25.2	17.8	12.5	8.89
.133	.103	137.5	1.33	1.03	117.5	13.3	10.3	97.5	133	103	77.5	1.33	1.03	57.5	13.3	10.3	37.5	.133	.103	17.5	.0178	23.8	16.8	11.8	8.40
.125	.097	138	1.25	.975	118	12.5	9.75	98	125	97.5	78	1.25	975	58	12.5	9.75	38	.125	.097	18	.0158	22.4	15.8	11.1	7.91
.119	.092	138.5	1.19	.921	118.5	11.9	9.21	98.5	119	92.1	78.5	1.19	921	58.5	11.9	9.21	38.5	.119	.092	18.5	.0141	21.2	15.0	10.6	7.51
.112	.086	139	1.12	.869	119	11.2	8.69	99	112	86.9	79	1.12	899	59	11.2	8.69	39	.112	.086	19	.0125	19.9	14.0	9.89	7.02
.106	.082	139.5	1.06	.820	119.5	10.6	8.20	99.5	106	82.0	79.5	1.06	820	59.5	10.6	8.20	39.5	.106	.082	19.5	.0112	18.9	13.4	9.43	6.69
.100	.077	140	1.00	.774	120	10.0	7.74	100	100	77.4	80	1.00	774	60	10.0	7.74	40	.100	.077	20	.0100	17.8	12.5	8.85	6.28
μV	μV	− db	μV	μV	− db	μV	μV	− db	μV	μV	− db	mV	mV	− db	mV	mV	− db	V	V	− db	POWER RATIO	mV	mV	mV	mV

Relationship between decibels, currents, voltage and power ratios.

Decibel (Voltage)	Loss	Gain	Decibel (Power)	Decibel (Voltage)	Loss	Gain	Decibel (Power)	Decibel (Voltage)	Loss	Gain	Decibel (Power)	Decibel (Voltage)	Loss	Gain	Decibel (Power)	Decibel (Voltage)	Loss	Gain	Decibel (Power)
.0	1.0000	1.000	.0	4.0	.6310	1.555	2.00	8.0	.3981	2.512	4.00	12.0	.2512	3.981	6.00	16.0	.1585	6.310	8.00
.1	.9886	1.012	.05	.1	.6237	1.603	.05	.1	.3936	2.541	.05	.1	.2483	4.027	.05	.1	.1567	6.383	.05
.2	.9772	1.023	.10	.2	.6166	1.622	.10	.2	.3890	2.570	.10	.2	.2455	4.074	.10	.2	.1549	6.457	.10
.3	.9661	1.035	.15	.3	.6095	1.641	.15	.3	.3846	2.600	.15	.3	.2427	4.121	.15	.3	.1531	6.531	.15
.4	.9550	1.047	.20	.4	.6026	1.660	.20	.4	.3802	2.630	.20	.4	.2399	4.169	.20	.4	.1514	6.607	.20
.5	.9441	1.059	.25	.5	.5957	1.679	.25	.5	.3758	2.661	.25	.5	.2371	4.217	.25	.5	.1496	6.683	.25
.6	.9333	1.072	.30	.6	.5888	1.698	.30	.6	.3715	2.692	.30	.6	.2344	4.266	.30	.6	.1479	6.761	.30
.7	.9226	1.084	.35	.7	.5821	1.718	.35	.7	.3673	2.723	.35	.7	.2317	4.315	.35	.7	.1462	6.839	.35
.8	.9120	1.096	.40	.8	.5754	1.738	.40	.8	.3631	2.754	.40	.8	.2291	4.365	.40	.8	.1445	6.918	.40
.9	.9016	1.109	.45	.9	.5679	1 758	.45	.9	.3589	2.786	.45	.9	.2265	4.416	.45	.9	.1429	6.998	.45
1.0	.8913	1.122	.50	5.0	.5623	1.778	.50	9.0	.3541	2.817	.50	13.0	.2239	4.467	.50	17.0	.1413	7.070	.50
.1	.8810	1.135	.55	.1	.5559	1.799	.55	.1	.3508	2.851	.55	.1	.2213	4.519	.55	.1	.1396	7.161	.55
.2	.8710	1.148	.60	.2	.5495	1.820	.60	.2	.3467	2.884	.60	.2	.2188	4.571	.60	.2	.1380	7.244	.60
.3	.8610	1.161	.65	.3	.5433	1.841	.65	.3	.3428	2.917	.65	.3	.2163	4.624	.65	.3	.1365	7.328	.65
.4	.8511	1.175	.70	.4	.5370	1.862	.70	.4	.3388	2.951	.70	.4	.2138	4.677	.70	.4	.1349	7.413	.70
.5	.8414	1.189	.75	.5	.5309	1.884	.75	.5	.3350	2.985	.75	.5	.2113	4.732	.75	.5	.1334	7.499	.75
.6	.8318	1.202	.80	.6	.5248	1.905	.80	.6	.3311	3.020	.80	.6	.2089	4.786	.80	.6	.1318	7.586	.80
.7	.8222	1.216	.85	.7	.5188	1.928	.85	.7	.3273	3.055	.85	.7	.2045	4.842	.85	.7	.1303	7.674	.85
.8	.8128	1.230	.90	.8	.5129	1.960	.90	.8	.3236	3.090	.90	.8	.2042	4.898	.90	.8	.1288	7.762	.90
.9	.8035	1.245	.95	.9	.5070	1.972	.95	.9	.3199	3.126	.95	.9	.2018	4.955	.95	.9	.1274	7.852	.95
2.0	.7943	1.259	1.00	6.0	.5012	1.995	3.00	10.0	.3162	3.162	5.00	14.0	.1995	5.012	7.00	18.0	.1259	7.943	9.00
.1	.7852	1.274	.05	.1	.4955	2.018	.05	.1	.3126	3.199	.05	.1	.1972	5.070	.05	.1	.1245	8.035	.05
.2	.7762	1.288	.10	.2	.4898	2.042	.10	.2	.3090	3.236	.10	.2	.1950	5.129	.10	.2	.1230	8.128	.10
.3	.7684	1.303	.15	.3	.4842	2.065	.15	.3	.3055	3.273	.15	.3	.1928	5.188	.15	.3	.1216	8.222	.15
.4	.7586	1.316	.20	.4	.4785	2.089	.20	.4	.3020	3.311	.20	.4	.1905	5.248	.20	.4	.1202	8.318	.20
.5	.7499	1.334	.25	.5	.4732	2.113	.25	.5	.2985	3.350	.25	.5	.1884	5.309	.25	.5	.1189	8.414	.25
.6	.7413	1.349	.30	.6	.4677	2.138	.30	.6	.2951	3.388	.30	.6	.1862	5.370	.30	.6	.1175	8.511	.30
.7	.7328	1.365	.35	.7	.4624	2.163	.35	.7	.2917	3.428	.35	.7	.1841	5.433	.35	.7	.1161	8.610	.35
.8	.7244	1.380	.40	.8	.4571	2.188	.40	.8	.2884	3.467	.40	.8	.1820	5.495	.40	.8	.1148	8.710	.40
.9	.7161	1.396	.45	.9	.4519	2.213	.45	.9	.2851	3.508	.45	.9	.1799	5.559	.45	.9	.1135	8.811	.45
3.0	.7073	1.413	.50	7.0	.4467	2.239	.50	11.0	.2818	3.548	.50	15.0	.1778	5.623	.50	19.0	.1122	8.913	.50
.1	.6998	1.429	.55	.1	.4416	2.265	.55	.1	.2786	3.589	.55	.1	.1758	5.689	.55	.1	.1109	9.016	.55
.2	.6918	1.445	.60	.2	.4365	2.291	.60	.2	.2754	3.631	.60	.2	.1738	5.754	.60	.2	.1096	9.120	.60
.3	.6839	1.462	.65	.3	.4315	2.317	.65	.3	.2723	3.673	.65	.3	.1718	5.821	.65	.3	.1084	9.226	.65
.4	.6761	1.479	.70	.4	.4266	2.344	.70	.4	.2692	3.715	.70	.4	.1698	5.888	.70	.4	.1072	9.333	.70
.5	.6683	1.496	.75	.5	.4217	2.371	.75	.5	.2661	3.756	.75	.5	.1679	5.957	.75	.5	.1059	9.441	.75
.6	.6607	1.514	.80	.6	.4169	2.399	.80	.6	.2630	3.802	.80	.6	.1660	6.026	.80	.6	.1047	9.550	.80
.7	.6531	1.531	.85	.7	.4121	2.427	.85	.7	.2600	3.846	.85	.7	.1641	6.095	.85	.7	.1035	9.661	.85
.8	.6457	1.549	.90	.8	.4074	2.455	.90	.8	.2570	3.890	.90	.8	.1622	6.166	.90	.8	.1023	9.772	.90
.9	.6383	1.567	.95	.9	.4027	2.483	.95	.9	.2541	3.936	.95	.9	.1603	6.237	.95	.9	.1012	9.886	.95

Decibel (Voltage)	Loss	Gain	Decibel (Power)
20.0	.1000	10.00	10.00
	Use the same numbers as 0-20 Db., but shift point one step to the left. Thus since 10 Db.=.3162 30 Db.=.03162	Use the same numbers as 0-20 Db., but shift point one step to the right. Thus since 10 Db.=3.162 30 Db.=31.62	This column repeats every 10 Db. instead of every 23 Db.

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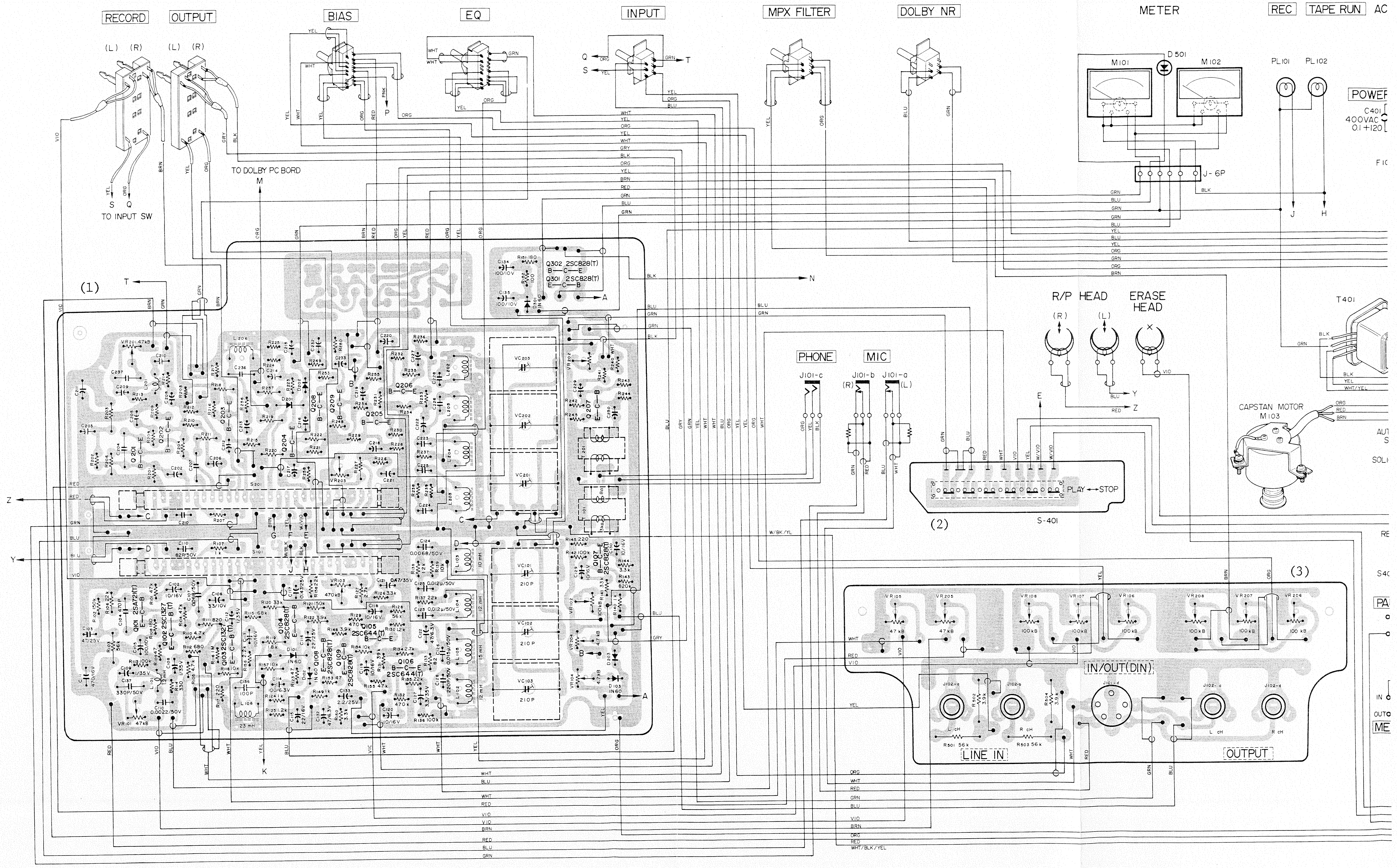
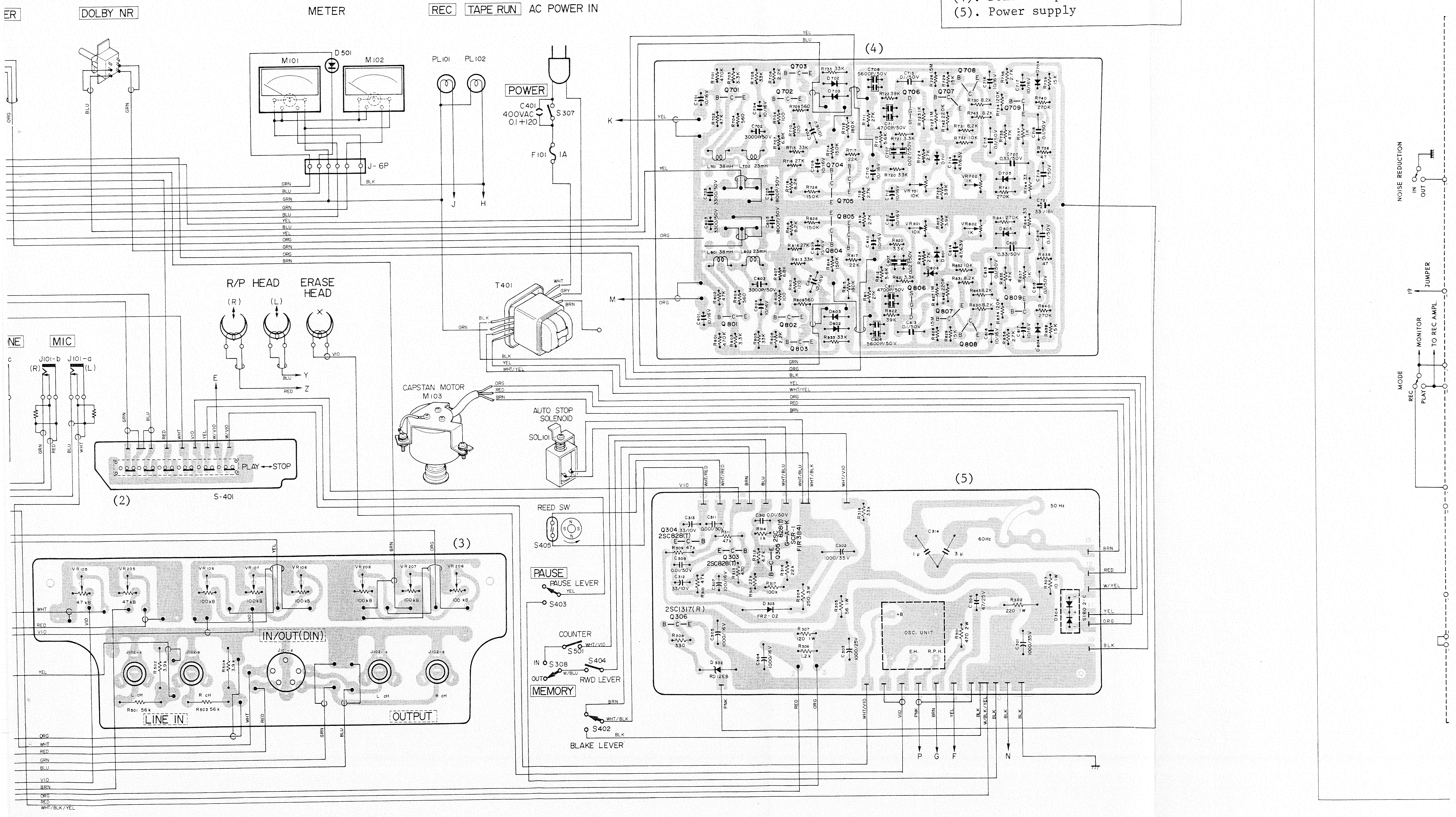
PARTS LOCATION & WIRING DIAGRAM


RECORD
OUTPUT
(L) (R)
BIAS
EQ
INPUT
MPX FILTER
DOLBY NR
METER
REC
TAPE RUN
AC
M101
M102
D501
PL101
PL102
POWER
C401
400VAC
0.1+120
J-6P
TO INPUT SW
TO DOLBY PC BORD
(1)
(2)
(3)
PHONE
MIC
J101-c
J101-b
J101-a
R/P HEAD
ERASE HEAD
T401
CAPSTAN MOTOR
M103
PLAY ←→ STOP
S-401
IN/OUT(DIN)
LINE IN
OUTPUT
L cH
R cH
R501 56k
R503 56k
Q301 2SC828(T)
Q302 2SC828(T)
Q101 2SA721(T)
Q102 2SC1327
Q103 2SC1327
Q104 2SC828(T)
Q105 2SC644(T)
Q106 2SC644(T)
Q107 2SC828(T)
Q108 2SC828(T)
VC101
VC102
VC103
VC201
VC202
VC203
S101
S201
VR101
VR201

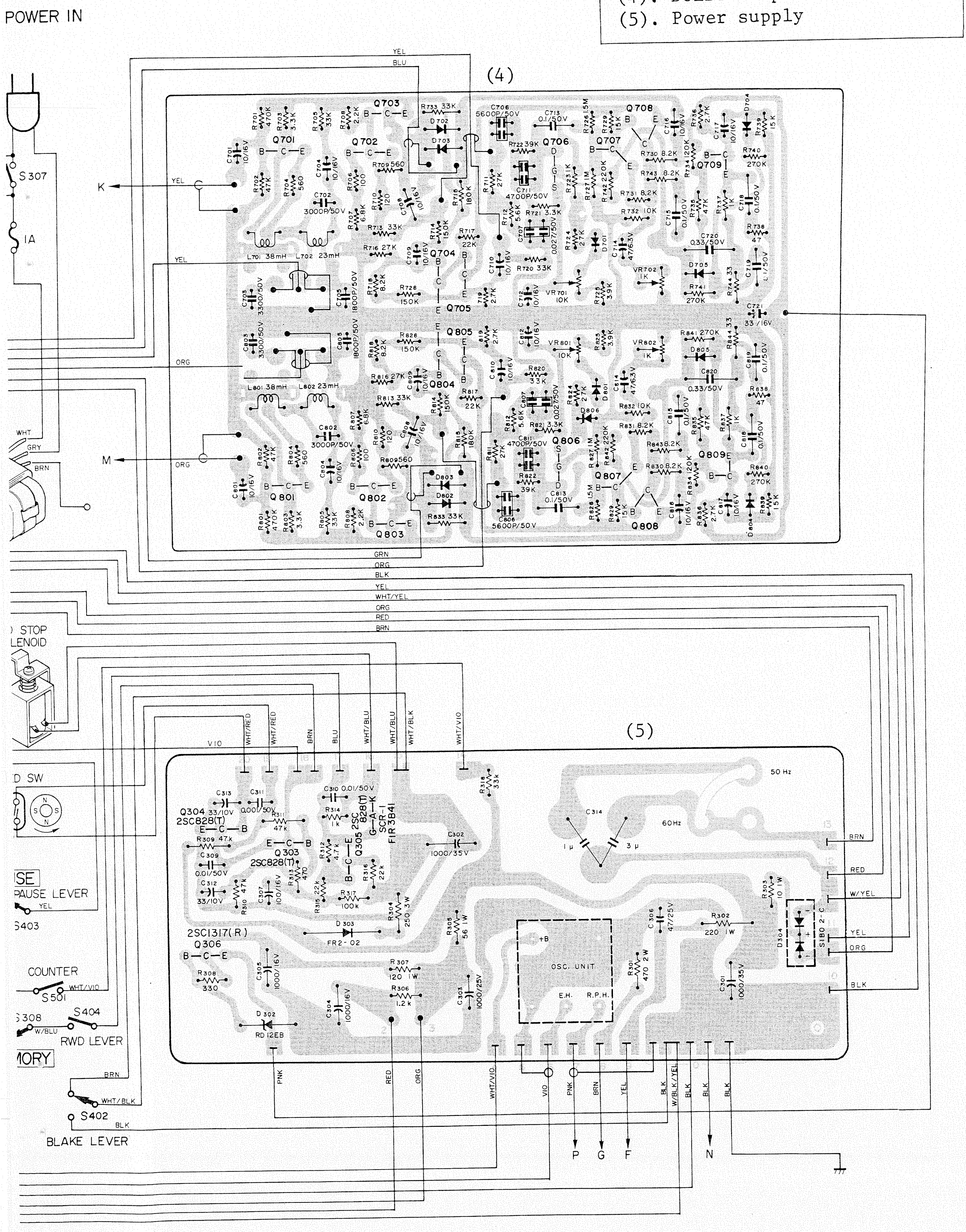
A-360

ARTS LOCATION & WIRING DIAGRAM

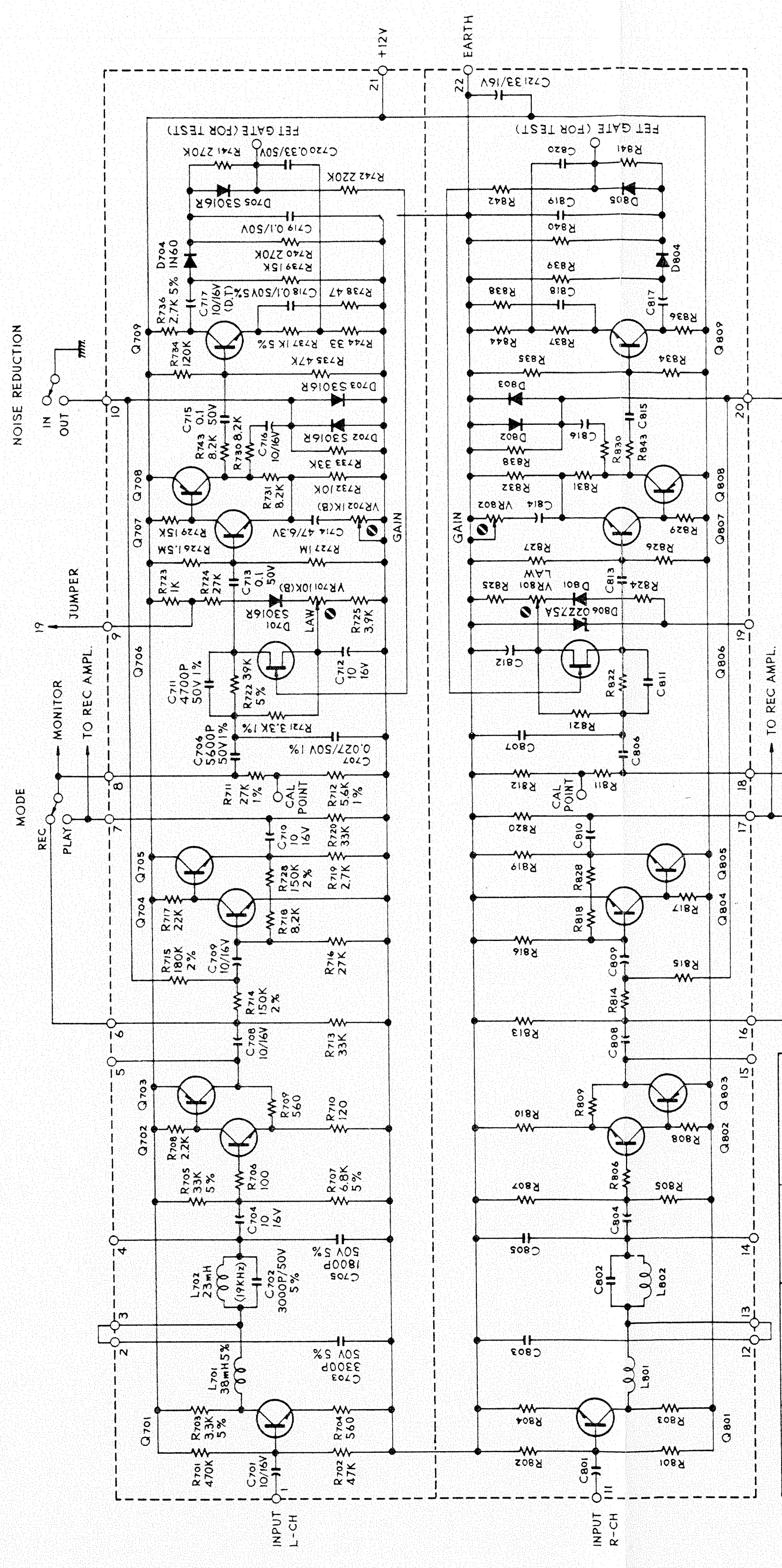
(1). Preamplifier
(2). Muting sw
(3). Rear panel level Adj.Assy
(4). DOLBY B processor
(5). Power supply


ER
DOLBY NR
METER
REC
TAPE RUN
AC POWER IN
M101
M102
D501
J-6P
PL101
PL102
POWER
C401
400VAC
0.1+120
S307
F101
1A
(4)
Q701
Q702
Q703
Q704
Q705
Q706
Q707
Q708
Q709
Q801
Q802
Q803
Q804
Q805
Q806
Q807
Q808
Q809
VR701
VR702
VR801
VR802
L701 38mH
L702 23mH
L801 38mH
L802 23mH
K
M
J
H
T401
R/P HEAD
(R)
(L)
ERASE HEAD
Y
Z
E
NE
MIC
J101-b
J101-a
(R)
(L)
CAPSTAN MOTOR
M103
AUTO STOP SOLENOID
SOL101
PLAY ←→ STOP
(2)
S-401
(3)
VR105
VR205
VR106
VR107
VR206
VR207
IN/OUT(DIN)
LINE IN
OUTPUT
L ch
R ch
R501 56k
R503 56k
REED SW
S405
PAUSE
PAUSE LEVER
S403
COUNTER
S501
IN
S308
OUT
S404
RWD LEVER
MEMORY
S402
BLAKE LEVER
(5)
Q303
Q304
Q305
Q306
2SC828(T)
2SC1317(R)
FIR3B4
OSC. UNIT
E.H.
R.P.H.
D302
D303
D304
S1B02-C
50 Hz
60Hz
C314
1μ
3μ
P
G
F
N
NOISE REDUCTION
IN
OUT
JUMPER
MONITOR
TO REC AMPL.
MODE
REC
PLAY
GRN
BLU
YEL
ORG
BRN
RED
WHT
BLK
VIO
GRY
PNK
WHT/YEL
WHT/BLK
WHT/BLU
WHT/RED
WHT/VIO
W/BLK/YEL
WHT/BLK/YEL

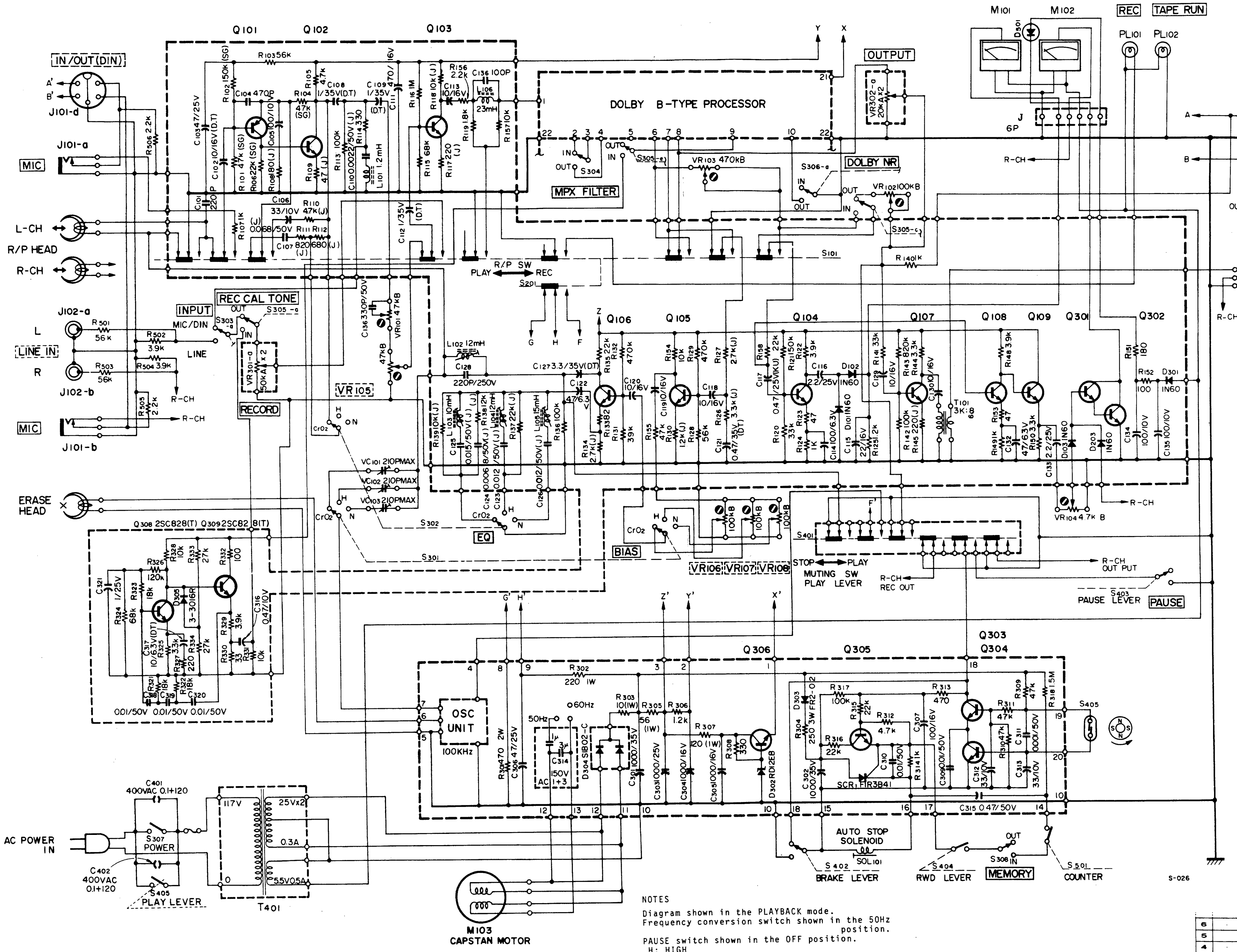
(1). Preamplifier
(2). Muting sw
(3). Rear panel level Adj.Assy
(4). DOLBY B processor
(5). Power supply


POWER IN
S307
1A
K
M
(4)
(5)
STOP SOLENOID
D SW
PAUSE LEVER
S403
COUNTER
S501
S308
S404
RWD LEVER
S402
BLAKE LEVER
50 Hz
60Hz
OSC. UNIT
P
G
F
N

DOLBY B TYPE PROCESSOR


+12V
EARTH
FET GATE (FOR TEST)
NOISE REDUCTION
IN
OUT
JUMPER
MONITOR
TO REC AMPL.
MODE
REC
PLAY
GAIN
LAW
CAL POINT
INPUT L-CH
INPUT R-CH

CIRCUIT REF.NO.	DESCRIPTION	CIRCUIT REF.NO.	DESCTIPTION
Q701/801	2SC1327(T)	Q706/806	2SK30(DA) or 2SK30(DB)
Q702/802	2SC644(S)	Q707/807	2SC1327(T)
Q703/803	2SA666I(S)	Q708/808	2SA666I(S)
Q704/804	2SC644(T)	Q709/809	2SC644(T)
Q705/805	2SC644(S)		


IN/OUT (DIN)
J101-d
J101-a
MIC
L-CH
R/P HEAD
R-CH
J102-a
L
LINE IN
R
J102-b
J101-b
ERASE HEAD
Q101
Q102
Q103
DOLBY B-TYPE PROCESSOR
MPX FILTER
DOLBY NR
OUTPUT
VR302-a 20KAx2
M101
M102
REC
TAPE RUN
PL101
PL102
J 6P
J102-c
J102-d
OUT VR
J101-c
PHONE
INPUT
REC CAL TONE
MIC/DIN
LINE
RECORD
VR105
PLAY
R/P SW
REC
S201
S101
Q106
Q105
Q104
Q107
Q108
Q109
Q301
Q302
EQ
BIAS
VR106
VR107
VR108
S401
STOP
PLAY
MUTING SW
PLAY LEVER
R-CH REC OUT
R-CH OUT PUT
PAUSE LEVER
PAUSE
Q308 2SC828(T) Q309 2SC828(T)
Q306
Q305
Q303
Q304
OSC UNIT
100KHz
50Hz
60Hz
AUTO STOP SOLENOID
SOL101
S402
BRAKE LEVER
S404
RWD LEVER
S308
MEMORY
S501
COUNTER
S405
AC POWER IN
C401 400VAC 0.1+120
S307 POWER
C402 400VAC 0.1+120
S405 PLAY LEVER
T401
117V
25Vx2
0.3A
55V0.5A
M103 CAPSTAN MOTOR
S-026

CIRCUIT REF.NO.	DESCRIPTION
Q101/201	2SA721(T)
Q102/202	2SC1327(T)
Q103/203	2SC1327(TorS)
Q104/204	2SC828(T)
Q105/205	2SC644(T)
Q106/206	2SC644(T)
Q107/207	2SC828(S)
Q108/208	2SC828(T)
Q109/209	2SC828(Q)
Q301/302	2SC828(T)
Q303/304	2SC828(T)
Q305	2SC828(T)
Q306	2SC1327(R)
D101/201	IN60
D102/202	IN60
D103/203	IN60
D301	IN60
D302	RD12EB
D303	FR2-02
D304	SIB02-C
SCR-1	FIR3B41

CIRCUIT REF.NO.	DESCRIPTION
VR101/201	PLAYBACK EQ Adj
VR102/202	PLAYBACK METER LEVEL Adj
VR103/203	REC METER LEVEL Adj
VR104/204	PEAK METER LEVEL Adj
VR105/205	PLAYBACK LEVEL Adj
VR106/206	REC LEVEL Adj(CrO2)
VR107/207	REC LEVEL Adj(HIGH)
VR108/208	REC LEVEL Adj(NORMAL)
VC101/201	BIAS Adj(CrO2)
VC102/202	BIAS Adj(HIGH)
VC103/203	BIAS Adj(NORMAL)
L102/202	BIAS TRAP
L103/203	REC EQ(CrO2)
L104/204	REC EQ(HIGH)
L105/205	REC EQ(NORMAL)
L106/206	BIAS TRAP

NOTES

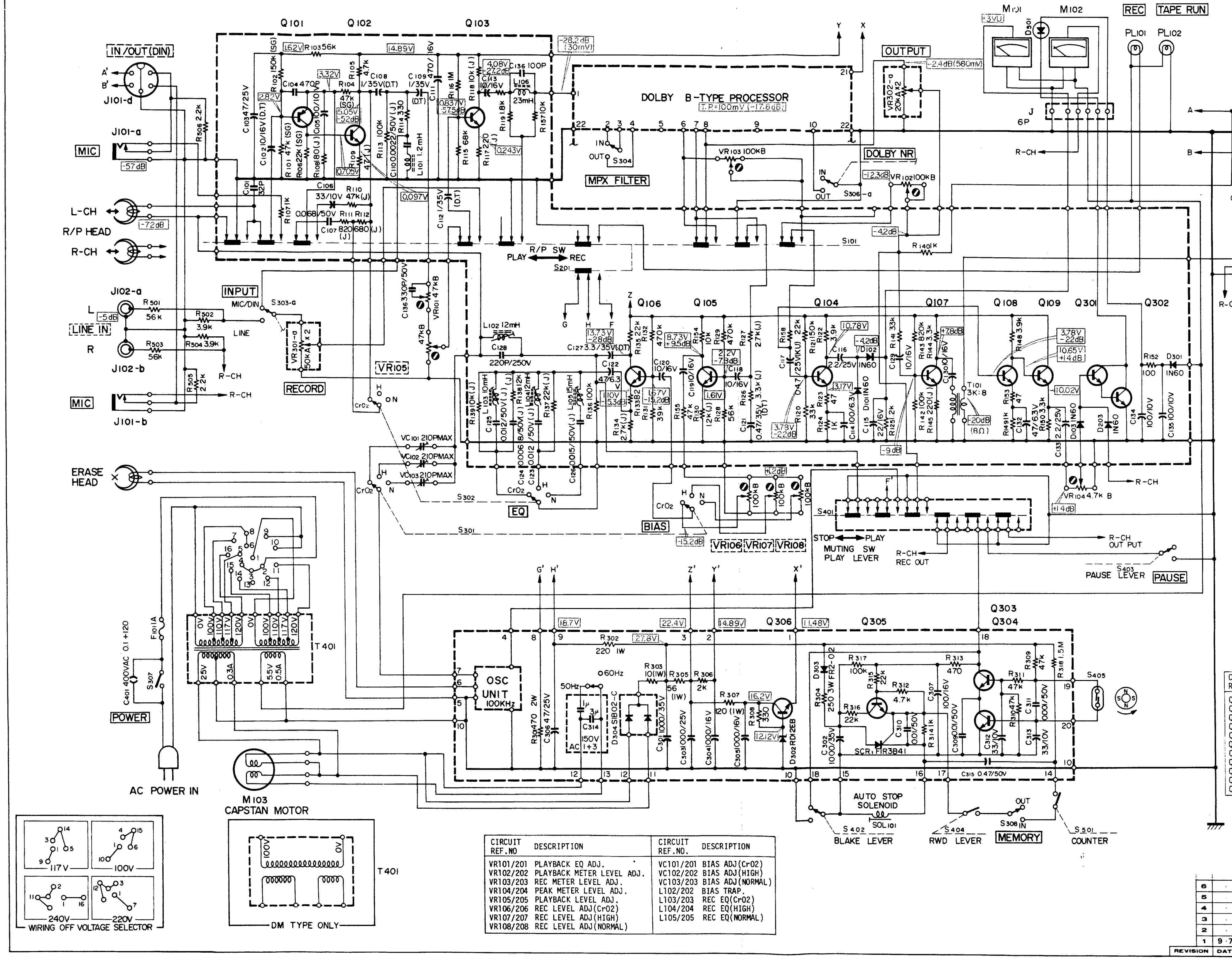
Diagram shown in the PLAYBACK mode.
Frequency conversion switch shown in the 50Hz position.

PAUSE switch shown in the OFF position.
H: HIGH
N: NORMAL
▭ : ON front panel.
⬚ : ON rear panel.
⊘ : SCREW DRIVER Adj.

REVISION	DATE	CHANGE NO.
6		
5		
4		
3		
2		
1	9 73	

STEREO CASSETTE DECK
MODEL NO.
TEAC 360S
SHEET NO.
TEAC CORPORATION

A.0101


IN/OUT(DIN)
J101-d
MIC
J101-a
L-CH
R/P HEAD
R-CH
J102-a
LINE IN
J102-b
J101-b
INPUT
RECORD
ERASE HEAD
POWER
AC POWER IN
M103
CAPSTAN MOTOR
T401
Q101
Q102
Q103
DOLBY B-TYPE PROCESSOR
T.P=100mV (-17.8dB)
MPX FILTER
DOLBY NR
OUTPUT
M101
M102
REC
TAPE RUN
PL101
PL102
J102-c
L-CH
OUTPUT
R-CH
J101-c
PHONE
R/P SW
PLAY
REC
S201
Q106
Q105
Q104
Q107
Q108
Q109
Q301
Q302
VR105
EQ
BIAS
VR106
VR107
VR108
S401
STOP
PLAY
MUTING SW
PLAY LEVER
R-CH REC OUT
R-CH OUT PUT
PAUSE LEVER
PAUSE
S403
OSC UNIT 100KHz
Q303
Q304
Q305
Q306
AUTO STOP SOLENOID
SOL101
S402
BLAKE LEVER
S404
RWD LEVER
S306
MEMORY
S501
COUNTER
117V
100V
240V
220V
WIRING OFF VOLTAGE SELECTOR
DM TYPE ONLY

NOTES

-Circuit DC voltage obtaines with high input impedance DC VTVM and should be within 20% at rated line voltage.

-DC voltage readings were obtained under the following conditions.

INPUT SIGNAL:NONE
MODE :STEREO RECORD

-Circuit signal level obtain with high INPUT impedance AC VTVM and should be within 20% at rated line voltage.

-Reading in db reference to 0.775V.

-Signal level reading were obtained under the following conditions

SIGNAL :400Hz
LINE CONTROL :REFERENCE LEVEL
OUTPUT CONTROL:REFERENCE LEVEL

NOTES

Diagram shown in the PLAYBACK mode.

Frequency conversion switch shown in the 50Hz position.

PAUSE switch shown in the OFF position.

H : HIGH
N : NORMAL
☐ : ON front panel.
▭ : ON rear panel.
⊘ : SCREW DRIVER ADJ.

CIRCUIT REF.NO.	DESCRIPTION	CIRCUIT REF.NO.	DESCRIPTION
Q101/201	2SA721(T)	Q305	2SC828(T)
Q102/202	2SC1327(T)	Q306	2SC1317(R)
Q103/303	2SC1327(TorS)	D101/201	IN60
Q104/204	2SC828(T)	D102/202	IN60
Q105/205	2SC644(T)	D103/203	IN60
Q106/206	2SC644(T)	D301	IN60
Q107/207	2SC828(S)	D302	RD12EB
Q108/208	2SC828(T)	D303	FR2-02
Q109/209	2SC828(Q)	D304	SIB02-C
Q301/302	2SC828(T)	SCR-1	FIR3B41
Q303/304	2SC828(T)		

CIRCUIT REF.NO	DESCRIPTION	CIRCUIT REF.NO.	DESCRIPTION
VR101/201	PLAYBACK EQ ADJ.	VC101/201	BIAS ADJ(Cr02)
VR102/202	PLAYBACK METER LEVEL ADJ.	VC102/202	BIAS ADJ(HIGH)
VR103/203	REC METER LEVEL ADJ.	VC103/203	BIAS ADJ(NORMAL)
VR104/204	PEAK METER LEVEL ADJ.	L102/202	BIAS TRAP.
VR105/205	PLAYBACK LEVEL ADJ.	L103/203	REC EQ(Cr02)
VR106/206	REC LEVEL ADJ(Cr02)	L104/204	REC EQ(HIGH)
VR107/207	REC LEVEL ADJ(HIGH)	L105/205	REC EQ(NORMAL)
VR108/208	REC LEVEL ADJ(NORMAL)		

REVISION	DATE	CHANGE NO.
6	·	
5	·	
4	·	
3	·	
2	·	
1	9·73	

STEREO CASSETTE DECK
MODEL NO.
A-360
SHEET NO.
TEAC CORPORATION

A.0101

TEAC® A-360/360S

STEREO CASSETTE DECK

PARTS LIST

HIGH DENSITY FERRITE HEAD
RECORD
OUTPUT
POWER
TEAC
A-360

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TEAC CORPORATION

EFFECTIVE : OCTOBER
LATEST REVISION NO.: CH-083

MANUAL CODE NO.: MC3600P100

PARTS ORDERING INFORMATION

Replacement parts are available through your nearest TEAC Authorized Service Center or directly from the TEAC office, the address of which is written on the back cover.
Changes are constantly being made to make TEAC products better and more reliable.
Therefore, when ordering parts, always include the following information:

1. MODEL	4. DESCRIPTION
2. FIG.REF.NO.	5. UNIT SERIAL NO.
3. TEAC PARTS NO.	6. MANUAL CODE NO.

NOTICE REGARDING PARTS ORDERS

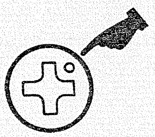
1. The Schematic Diagram Circuit Reference Numbers should not be used for ordering parts. Use of those numbers will result in confusion and might bring you the wrong part. To insure the correct part from your order, always use the TEAC PARTS NUMBER and include all information as requested above.
2. To insure rapid parts identification and thus rapid delivery of the part you desire, always include the MANUAL CODE NUMBER with each part or group of parts from a specific manual. This Manual Code Number is printed on the lower right-hand corner of the Parts List Manual (i.e., MC3600P100)
3. In some instances, individual minor parts are not available, such as the pieces comprising the Right Reel Table Assy (REF. 4-9, pg. 11). In such a case, the entire assembly including the part requested will be sent to you.

MARKET MODEL IDENTIFICATION ABBREVIATIONS

DM	For only domestic (Japan) market decks.
EX	For all export versions (except TCA or Japan).
TCA	For TCA (TEAC Corporation of America, U.S.A.) versions only.

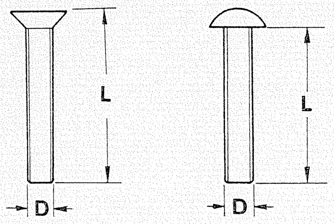
HARDWARE NOMENCLATURE

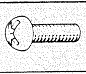
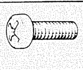
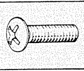
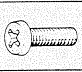
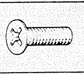
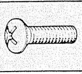
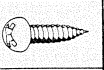
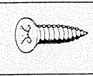
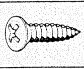
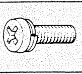
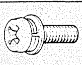
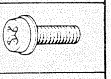
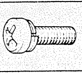
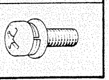
All screws conform to **ISO** standards, and have cross-recessed heads, unless otherwise noted.
ISO screws have the head inscribed with a point as in the figure to the right.

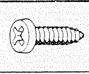
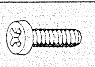
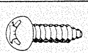
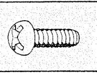
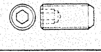
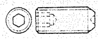
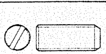
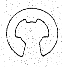
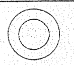
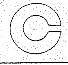
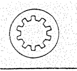
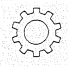
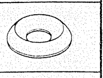
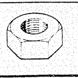


FOR EXAMPLE:

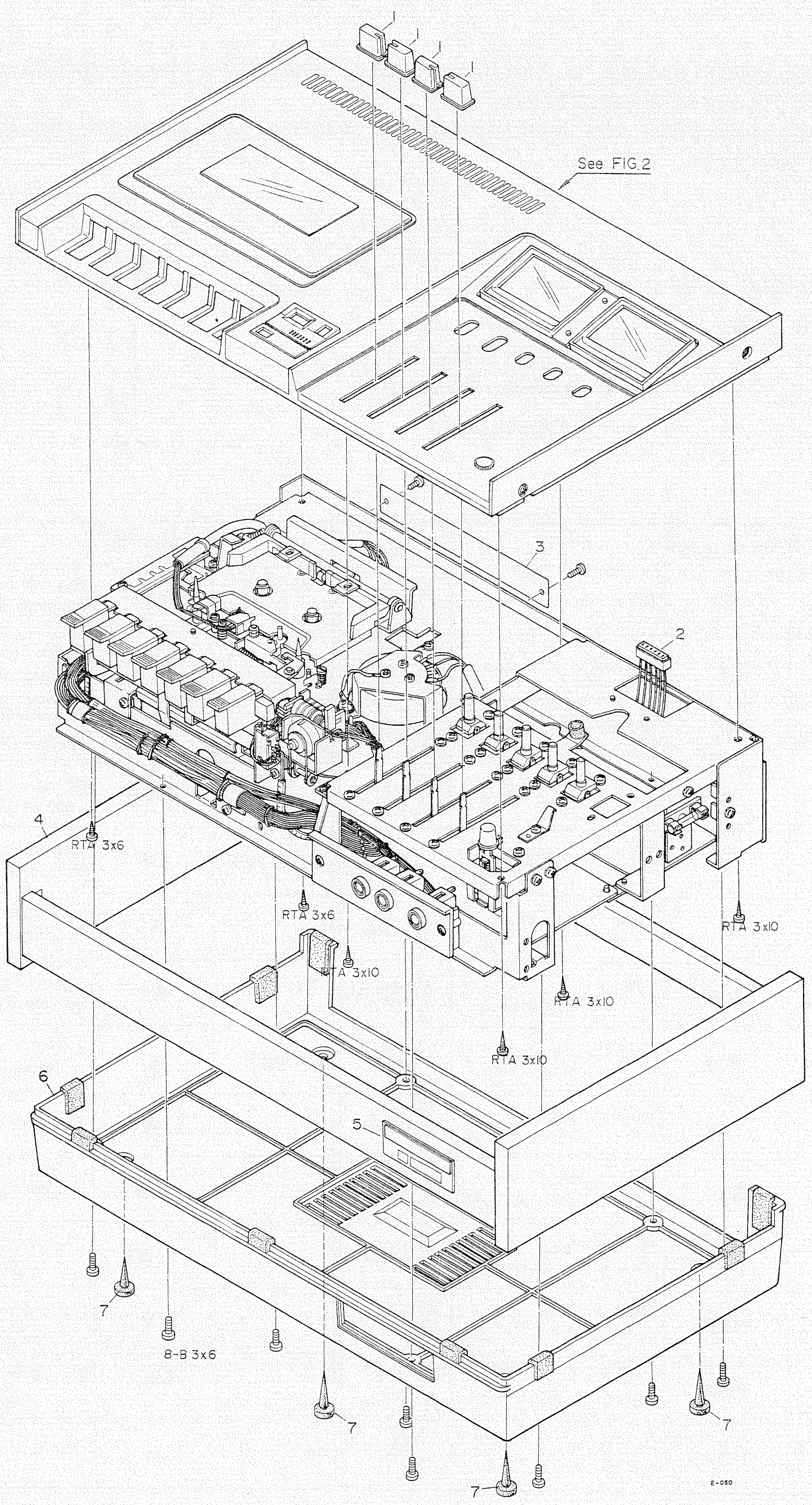
B 3x6
- 6 ---- Length in mm (L)
- 3 ---- Diameter in mm (D)
- B ---- Type of Head



	Abbreviation	*Name*	*Type*
MACHINE SCREW	**R**	Round Head Screw	
	P	Pan Head Screw	
	T	Stove Head Screw (Truss)	
	B	Binding Head Screw	
	F	Flat Countersunk Head Screw	
	O	Oval Countersunk Head Screw	
WOOD SCREW	**RW**	Round Head Wood Screw	
	FW	Flat Countersunk Wood Screw	
	OW	Oval Countersunk Wood Screw	
SEMS SCREW	**BSA**	Binding Head SEMS Screw(A Type)	
	BSB	Binding Head SEMS Screw(B Type)	
	BSF	Binding Head SEMS Screw(F Type)	
	PSA	Pan Head SEMS Screw(A Type)	
	PSB	Pan Head SEMS Screw(B Type)	

	Abbreviation	*Name*	*Type*
TAPPING SCREW	**BTA**	Binding Head Tapping Screw(A Type)	
	BTB	Binding Head Tapping Screw(B Type)	
	RTA	Round Head Tapping Screw(A Type)	
	RTB	Round Head Tapping Screw(B Type)	
SETSCREW	**SF**	Hex Socket Setscrew(Flat Point)	
	SC	Hex Socket Setscrew(Cup Point)	
	SS	Slotted Socket Setscrew(Flat Point)	
WASHER	**E**	E-Ring (Retaining Washer)	
	W	Flat Washer(Plain)	
	SW	Lock Washer(Spring)	
	LWI	Lock Washer (Internal Teeth)	
	LWE	Lock Washer (External Teeth)	
	TW	Trim Washer (Countersunk)	
NUT	**N**	Hex Nut	

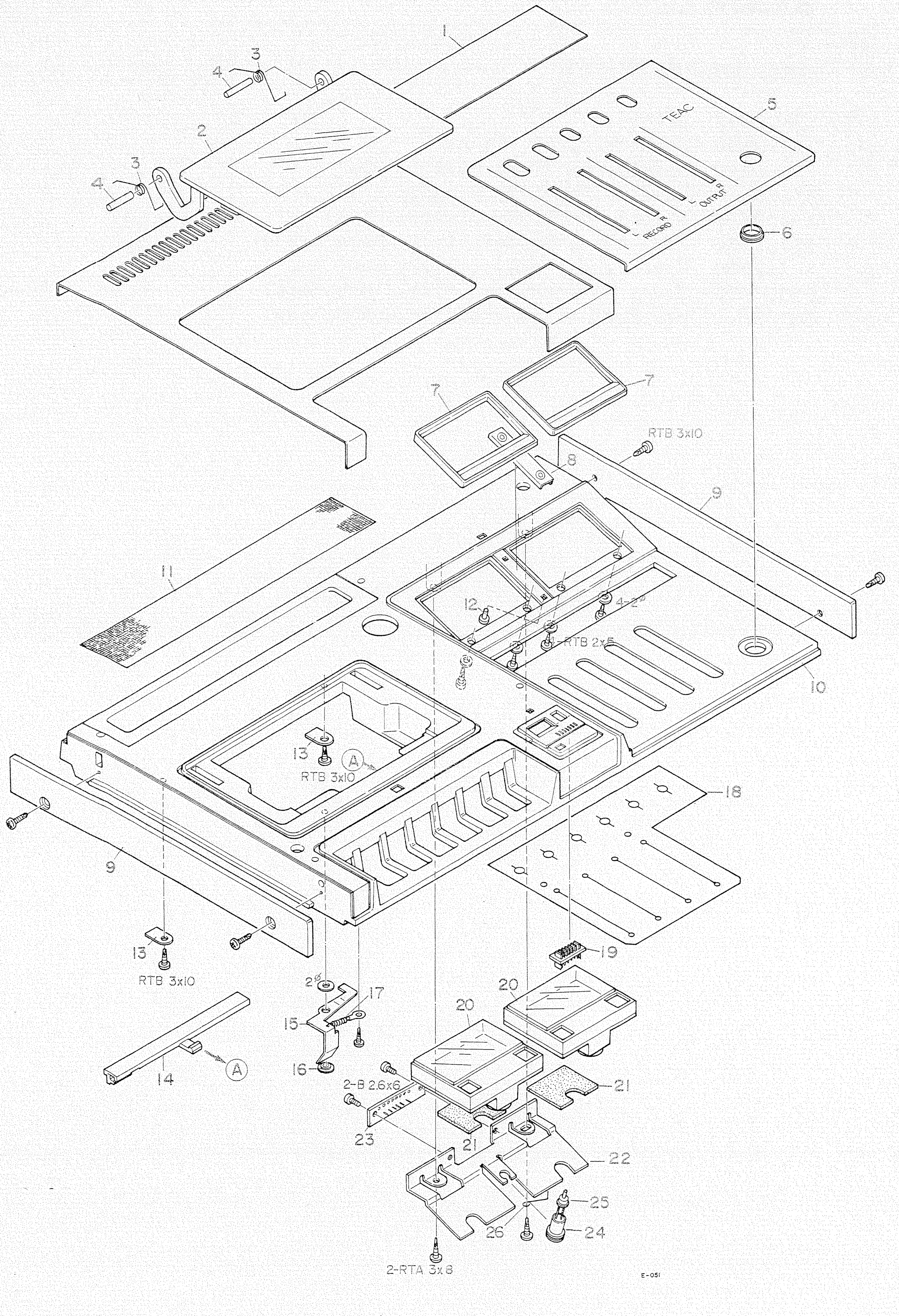
1. BASIC DISASSEMBLY


1
1
1
1
See FIG.2
3
2
4
RTA 3x6
RTA 3x6
RTA 3x10
RTA 3x10
RTA 3x10
RTA 3x10
5
6
7
7
7
7
8-B 3x6
E-050

PARTS LIST-1

REF. NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
1-1	55301391	Knob, VR		
1-2	51220030	Connector, 6P (Socket)		
1-3	55600140	Shield, CAUTION; Plastic (DM)		
	55600150	Shield, CAUTION; Plastic (EX)		
	55600450	Shield, CAUTION; Plastic (TCA)		
1-4	55001210	Case Assy, Wooden (incl. Name Plate)		
1-5	50267160	Name Plate, TEAC (incl/w Case Assy)		
1-6*	55301410	Cover Assy, Bottom (incl. Mtg Feet)		
1-7	50285540	Mtg Feet (incl/w Buttom Cover Assy)		

2. TOP COVER

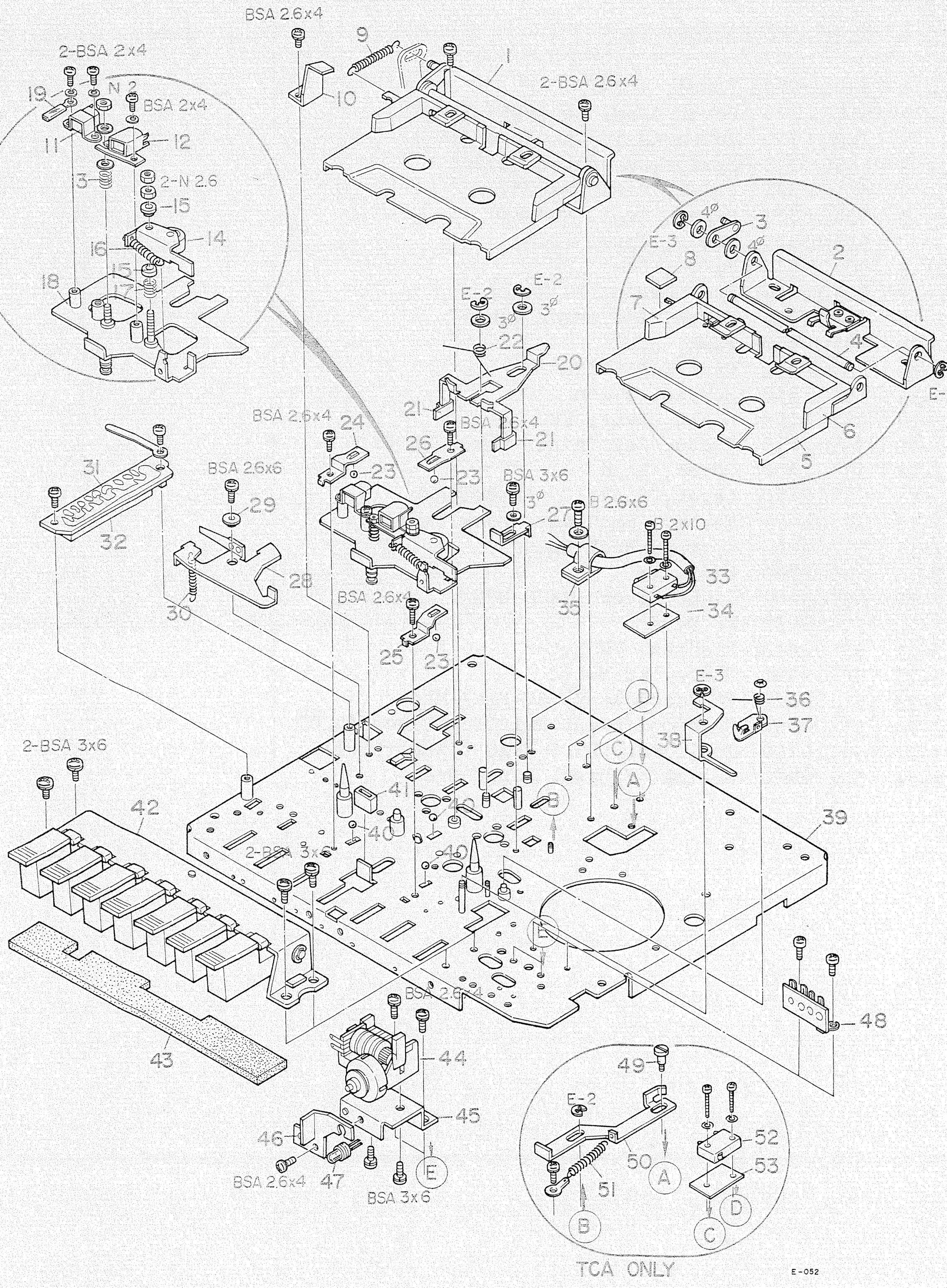

TEAC
OUTPUT
RECORD
L
R
L
R
RTB 3x10
4-2ϕ
RTB 2x5
RTB 3x10
A
RTB 3x10
2ϕ
A
2-B 2.6x6
2-RTA 3x8
E-051

PARTS LIST-2

REF. NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
2- 1	55502330	Panel, Trim		
2- 2	55001190	Cover Assy, Cassette (DM,EX)		
	55001200	Cover Assy, Cassette (TCA)		
2- 3	55200331	Spring, Cassette Cover; R		
2- 4	55401390	Shaft, Cassette Cover		
2- 5	55502310	Panel, Ampl. (DM,EX)		
	55502320	Panel, Ampl. (TCA)		
2- 6	50928230	Guide, Power SW		
2- 7	55301340	Escutcheon, VU Meter		
2- 8	55502340	Plate, Indicator Label		
2- 9	55301360	Sash, Side		
2-10	55301331	Case Top, Plastic		
2-11	55502350	Screen, Nylon		
2-12	57243190	Light Cover, REC		
2-13	55502410	Plate, Retaining; Cover Shaft		
2-14	55301400	Cover, Head		
2-15	55502420	Lever, Hook; Cover Release		
2-16	55401401	Washer, Shoulder; Hook Lever		
2-17	55200960	Spring, Hook Lever		
2-18	55502360	Mask, VR		
2-19	55300400	Light Cover, TAPE RUN		
2-20	51650020	VU Meter		
2-21	55502440	Cushion, VU Meter		
2-22	55502431	Plate, VU Meter		
2-23	51680071	PC Board Assy, 6P Plug Mtg		
2-24	55300360	Cushion, Light Emitting Diode (LED)		
2-25	50425110	Indicator, LED; PEAC LEVEL (D501)		
2-26	55200970	Spring, Finger; Panel Gnd.		

3. TRANSPORT SECTION A

TOP VIEW


BSA 2.6x4
9
1
2-BSA 2.6x4
10
2-BSA 2x4
19
N 2
BSA 2x4
11
12
3
2-N 2.6
15
14
16
15
17
18
4ø
3
4ø
E-3
8
2
7
4
E-3
6
5
E-2
E-2
3ø
3ø
22
20
21
BSA 2.6x4
21
BSA 2.6x4
24
26
23
23
31
BSA 2.6x6
29
BSA 3x6
3ø
27
B 2.6x6
B 2x10
32
28
33
35
34
30
BSA 2.6x4
25
23
E-3
D
36
37
C
38
A
2-BSA 3x6
42
41
B
40
2-BSA 3x6
40
39
E
BSA 2.6x4
48
43
44
49
E-2
45
46
50
52
A
53
47
E
BSA 2.6x4
BSA 3x6
51
D
B
C
TCA ONLY

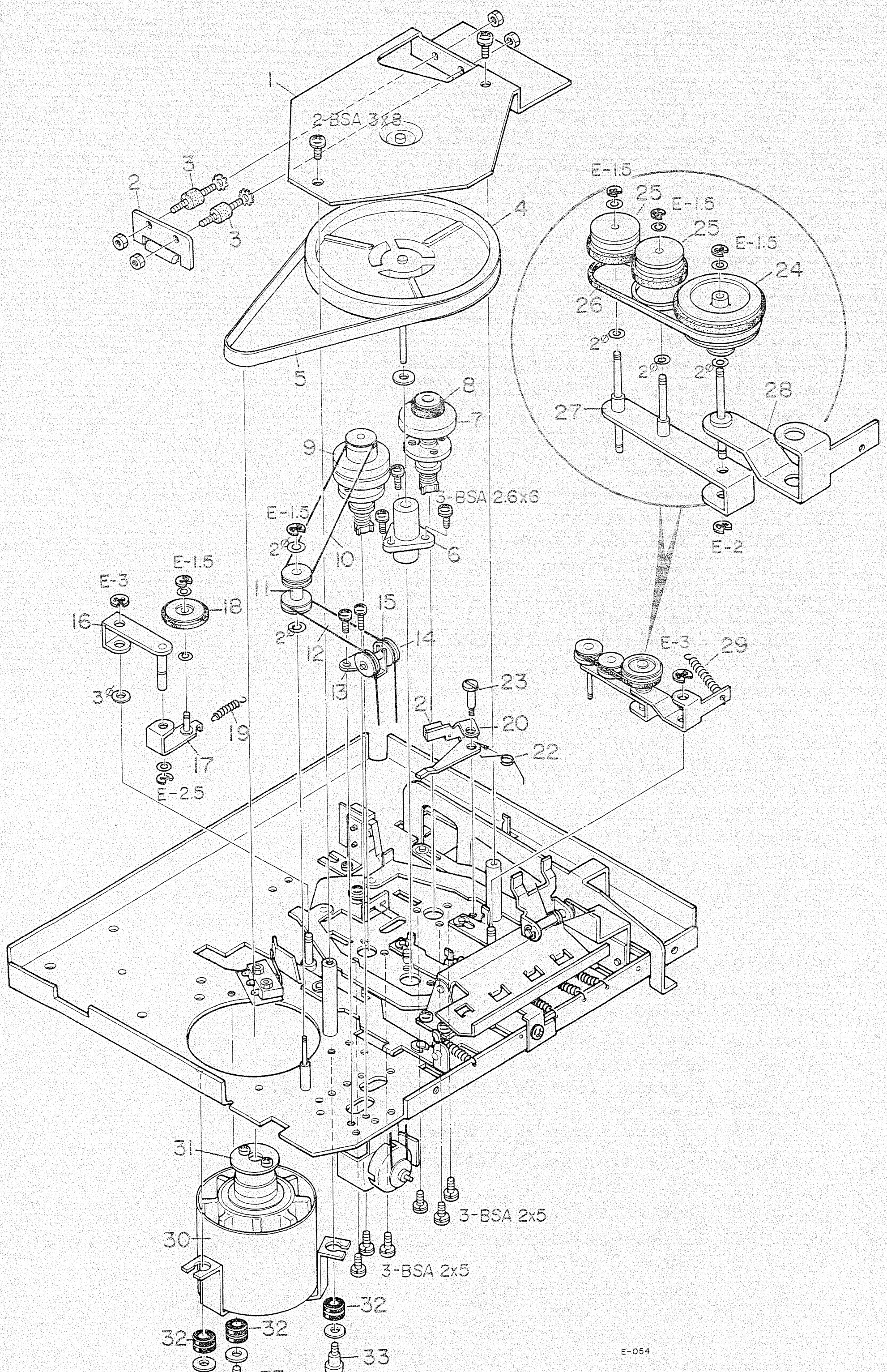
E-052

PARTS LIST-3

REF. NO.	TEAC PARTS NO.	DESCRIPTION	REVISION	
			1st	2nd
3- 1	55001131	Cassette Carrier Assy		
3- 2	55001141	Bracket, Carrier Mtg		
3- 3	55000280	Arm, Rocker; Cassette Pop Up		
3- 4	55400471	Shaft, Cassette Carrier		
3- 5	55500491	Cassette Carrier		
3- 6	55300341	Tape Guide, Right		
3- 7	55300331	Tape Guide, Left		
3- 8	55500520	Cushion, Cassette Carrier		
3- 9	55200240	Spring, Rocker Arm		
3-10	55500540	Bracket, Stopper; Cassette Carrier		
3-11	50663070	Head, Erase		
3-12	50660422	Head, R/P; Ferrite (DM,EX)		
	50660440	Head, R/P; Permaflux (TCA)		
3-13	55200021	Spring, Head Adjusting		
3-14	55000032	Pinch Roller Assy		
3-15	55300010	Guide, Pinch Roller		
3-16	55200030	Spring, Pinch Roller		
3-17	55200010	Spring, Guide		
3-18	55000021	Plate, Head Base		
3-19	50831921	Retainer, Head Leads		
3-20	55500233	Bracket, Brake		
3-21	55300112	Brake Shoe		
3-22	55200141	Spring, Brake Bracket		
3-23	55400550	Steel Ball, 2ϕ		
3-24	55500040	Plate Spring, Left		
3-25	55500050	Plate Spring, Right		
3-26	55500060	Plate Spring, Center		
3-27	55500070	Bracket, Stopper; Head Base Plate		
3-28	55001150	Lever Assy, Muting; SW Act.		
3-29	55400480	Washer, Shoulder; Hook Lever Arm		
3-30	55200950	Spring, Muting SW Act. Lever		
3-31	51680061	PC Board Assy, Muting SW		
	51670321	PC Board, Muting SW		
3-32	50444630	SW, Slide; Muting (S401)		
3-33	50446540	SW, Micro (S402)		
3-34	55500250	Spacer, Insul. Paper		
3-35	50276290	Clamp, Wire; B		
3-36	55200161	Spring, Pause Lock Plate		
3-37	55500270	Plate, Pause Lock		
3-38	55500260	Lever, Pause; B		
3-39	55000013	Chassis, Tape Transport (Partial Assy)		
3-40	55400560	Steel Ball, 3ϕ		
3-41	55300350	Cushion, Head Base Plate		
3-42	55001082	Pushbutton Assy; Motion Control		
3-43	55502450	Pad, Pushbutton		
3-44	55001070	Counter Assy, Index		
3-45	55502130	Plate, Counter; A		
3-46	55502140	Plate, Counter; B		
3-47	50414660	Lamp, TAPE RUN (PL102)		
3-48	50452570	Terminal Strip, 2L2P		
3-49	55502500	Screw, Kick-off Lever (TCA only)		
3-50	55502490	Lever, Micro SW Kick-off (TCA only)		
3-51	55502510	Spring, Kick-off Lever (TCA only)		
3-52	50446180	SW, Micro (S406) (TCA only)		
3-52	55502480	Spacer, Insul. Paper (TCA only)		

4. TRANSPORT SECTION B

BOTTOM VIEW 1

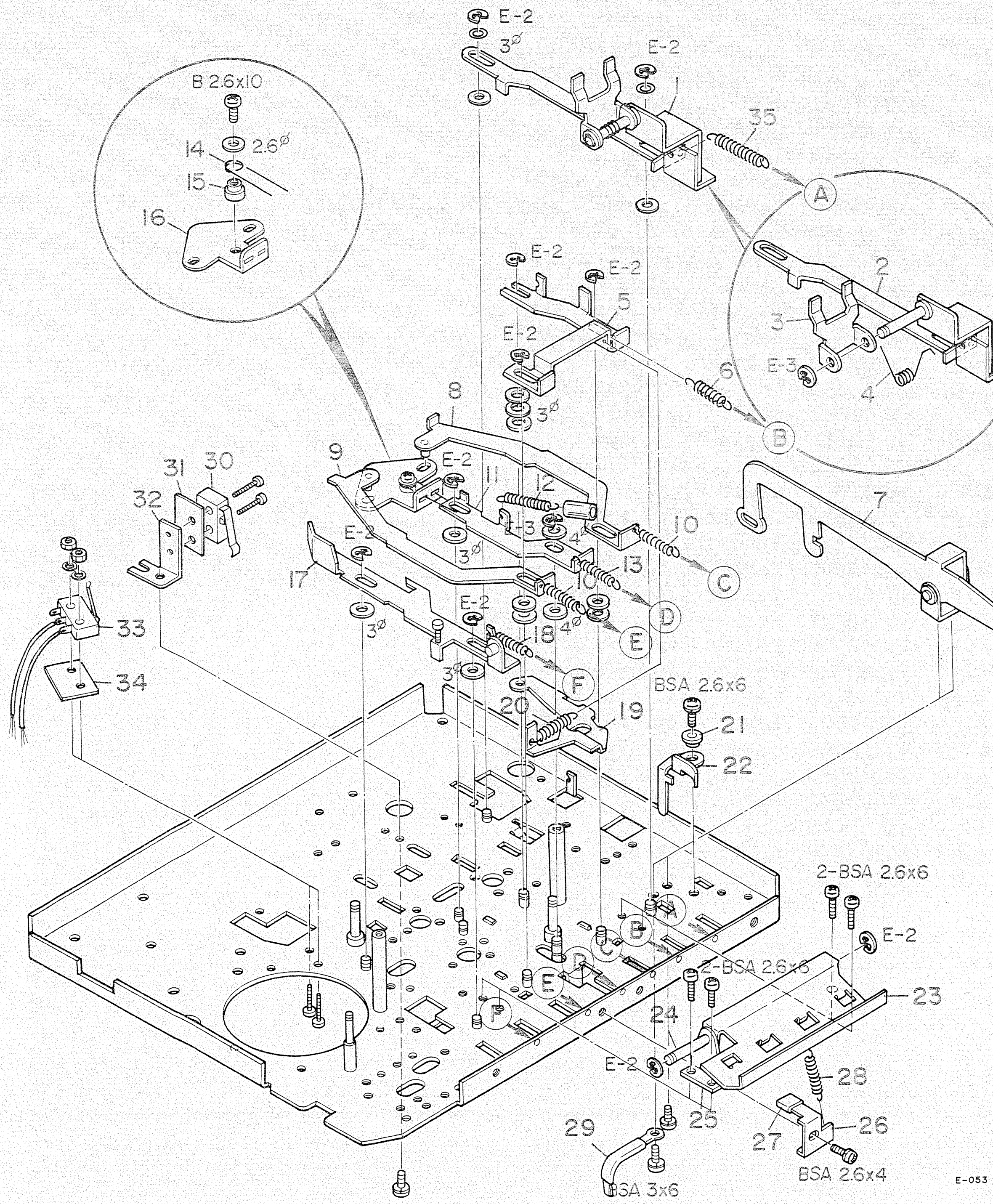

1
2-BSA 3x8
2
3
3
4
5
E-1.5
25
E-1.5
25
E-1.5
24
26
2φ
2φ
2φ
27
28
E-2
8
7
9
3-BSA 2.6x6
6
E-1.5
2φ
10
11
15
14
12
13
2φ
E-3
E-1.5
16
18
3φ
19
17
E-2.5
E-3
29
23
21
20
22
31
30
3-BSA 2x5
3-BSA 2x5
32
32
32
33
33
33
E-054

PARTS LIST-4

REF. NO.	TEAC PARTS NO.	DESCRIPTION	REVISION	
			1st	2nd
4- 1	55001240	Plate Assy, Flywheel Bearing		
4- 2	50490441	PC Board Assy, Reed SW (S405)		
4- 3	71111900	Cushion, Rubber		
4- 4	55000182	Flywheel		
4- 5	55300150	Belt, Capstan		
4- 6	55000192	Capstan Housing Assy		
4- 7	55000242	Reel Table Assy, Left (incl. Magnet)		
4- 8	50152392	Magnet (incl/w #7)		
4- 9	55000211	Reel Table Assy, Right		
4-10	55301250	Belt, Counter; Small		
4-11	55301220	Pulley, Counter Idler; A		
4-12	55301240	Belt, Counter; Large		
4-13	55502150	Bracket, Pulley B Shaft Mtg		
4-14	55301230	Pulley, Counter Idler; B		
4-15	55401380	Shaft, Pulley B Mtg		
4-16	55000080	Lever Assy, Idler; A		
4-17	55000090	Lever Assy, Idler; B		
4-18	55001040	Idler Wheel		
4-19	55200110	Spring, Idler Lever B		
4-20	55500590	Bracket, Back Tension		
4-21	55500600	Felt, Back Tension		
4-22	55200282	Spring, Back Tension		
4-23	55400491	Screw-shaft, Back Tension		
4-24	55000100	Roller Assy, Fast Wind		
4-25	55000120	Roller Assy, Fast Wind; C		
4-26	55300100	Belt, Fast Wind		
4-27	55000071	Lever Assy, Fast Wind; B		
4-28	55000060	Lever Assy, Fast Wind; A		
4-29	55200080	Spring, Fast Wind Lever A		
4-30	71015012	Motor Assy		
4-31	55400413	Pulley, Motor		
4-32	50274650	Cushion, Rubber		
4-33	50210100	Screw, Motor Mtg		

5. TRANSPORT SECTION C

BOTTOM VIEW 2



E-2
3⌀
E-2
1
35
A
B 2.6x10
14
2.6⌀
15
16
E-2
E-2
5
2
3
E-3
4
E-2
6
B
8
3⌀
9
E-2
11
12
31
30
32
E-3
4⌀
3⌀
10
C
7
17
E-2
13
10
D
4⌀
E
33
E-2
18
3⌀
3⌀
F
34
BSA 2.6x6
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22
2-BSA 2.6x6
A
B
E-2
C
D
2-BSA 2.6x6
E
23
F
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E-2
28
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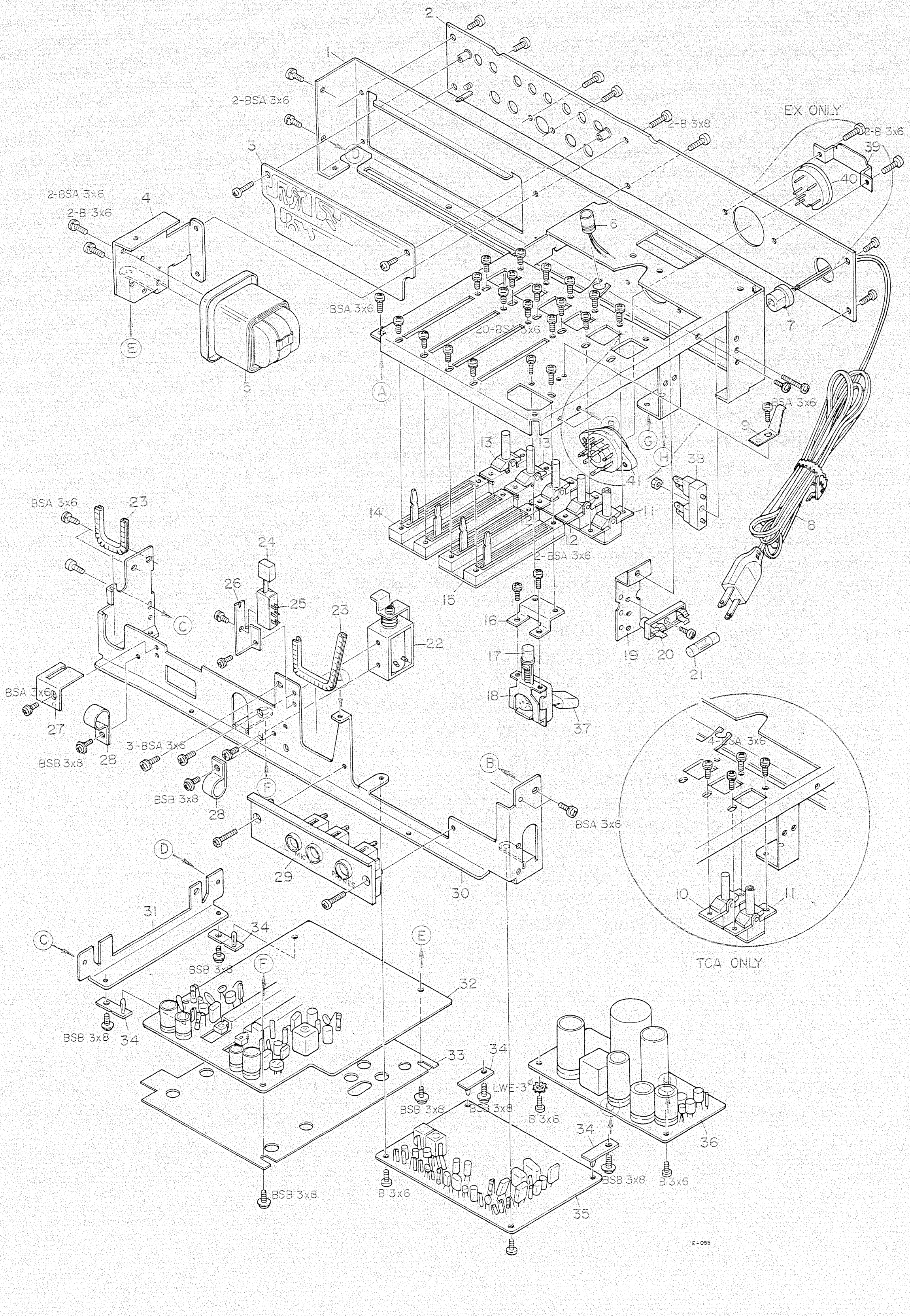
27
BSA 2.6x4
BSA 3x6
E-053

PARTS LIST-5

REF. NO.	TEAC PARTS NO.	DESCRIPTION	REVISION	
			1st	2nd
5- 1	55001020	Lever Assy, Record Mode Act.		
5- 2	55001030	Lever Sub Assy, Record Mode Act.		
5- 3	55502080	Plate, Record Mode SW Act.		
5- 4	55200920	Spring, SW Plate		
5- 5	55500111	Lever, F.F.		
5- 6	55200061	Spring, F.F. Lever		
5- 7	55000272	Lever Assy, Cassette Pop Up Rocker		
5- 8	55000041	Lever Assy, Fast; Right		
5- 9	55000051	Lever Assy, Fast; Left		
5-10	55200071	Spring, Fast Lever		
5-11	55500080	Lever, Play		
5-12	55200041	Spring, Play		
5-13	55200051	Spring, Play Lever		
5-14	55200090	Spring, Pressure Plate		
5-15	55400290	Washer, Shoulder; Pressure Plate		
5-16	55500140	Plate, Pressure; Fast Winding		
5-17	55000152	Lever Assy, Pause; A		
5-18	55200151	Spring, Pause Lever A		
5-19	55501030	Lever, Play Mode Lock Out		
5-20	55200271	Spring		
5-21	55400480	Washer, Shoulder; Hook Lever Arm		
5-22	55500570	Arm, Hook Lever		
5-23	55500431	Plate, Pushbutton Holding		
5-24	55400430	Shaft, Holding Plate		
5-25	55500440	Bracket, Holding Plate		
5-26	55500452	Bracket, Holding Plate Limit		
5-27	55300320	Cushion, Holding Plate		
5-28	55200230	Spring, Holding Plate		
5-29	50279870	Retainer, Leads; D		
5-30	55502100	SW, Micro; Memory Function (S404)		
5-31	55500250	Spacer, Insul. Paper		
5-32	55502100	Plate, Micro SW		
5-33	50446540	SW, Micro; Pause (S403)		
5-34	55500250	Spacer, Insul. Paper		
5-35	55200100	Spring, Record Lever		

6. ELECTRICAL AND MISCELLANEOUS

PREAMPLIFIER SECTION



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2-BSA 3x6
2-B 3x8
EX ONLY
2-B 3x6
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2-BSA 3x6
2-B 3x6
4
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BSA 3x6
20-BSA 3x6
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BSA 3x6
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G
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BSA 3x6
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2-BSA 3x6
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BSA 3x6
4-BSA 3x6
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3-BSA 3x6
BSB 3x8
BSB 3x8
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F
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BSA 3x6
D
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MIC
PHONES
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TCA ONLY
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C
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BSB 3x8
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BSB 3x8
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LWE-3
BSB 3x8
BSB 3x8
B 3x6
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BSB 3x8
B 3x6
BSB 3x8
B 3x6
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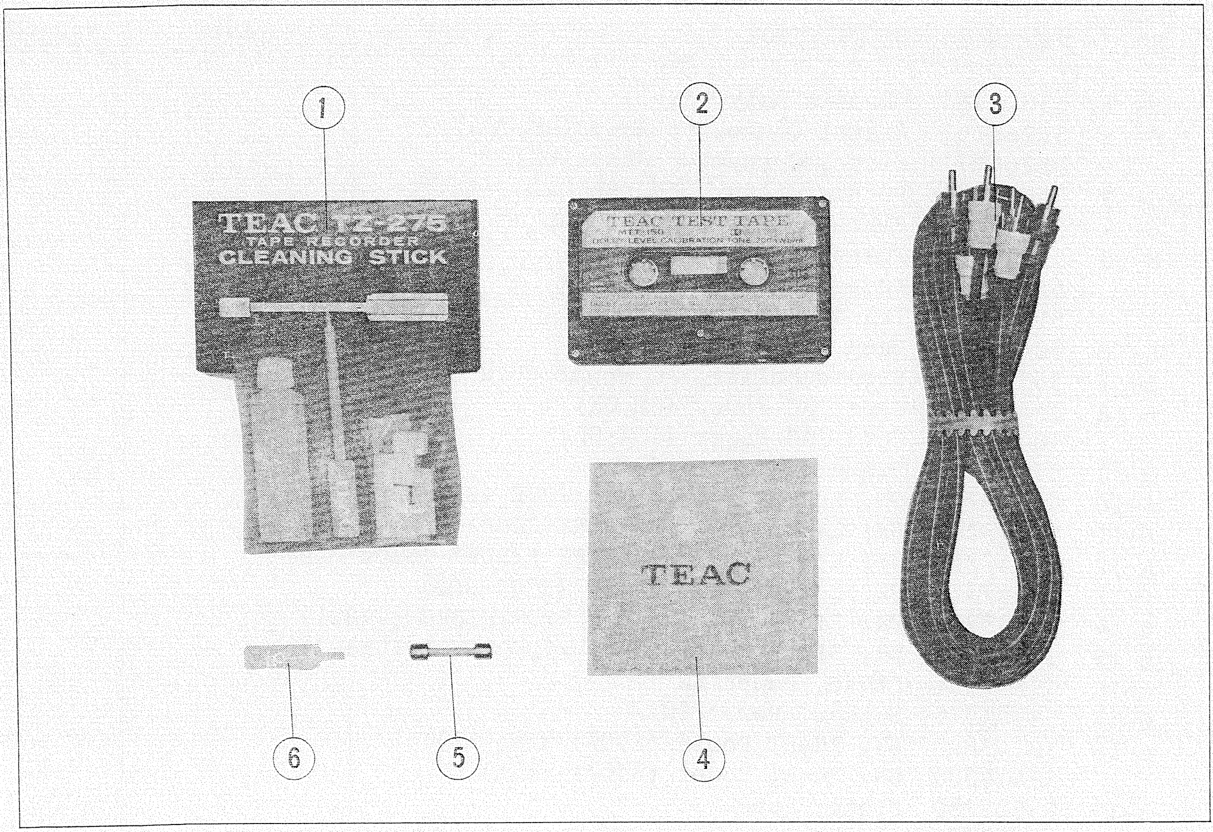
E-055

PARTS LIST-6

REF. NO.	TEAC PARTS NO.	DESCRIPTION	REVISION	
			1st	2nd
6- 1	55001163	Chassis Assy, Ampl.		
6- 2	51260061	Plate, Connector Assy (DM,TCA)		
	51260071	Plate, Connector Assy (EX)		
6- 3	51680041	PC Board Assy, REC/PB CAL		
6- 4	55502230	Plate, Power Transformer		
6- 5	51520050	Transformer, Power (DM)		
	51520060	Transformer, Power (EX)		
	51520070	Transformer, Power (TCA)		
6- 6	50414650	Lamp, REC (PL101)		
6- 7	55300470	Strain Relief, AC Power Cord		
6- 8	50471652	Cord, AC Power (DM,EX)		
	50471661	Cord, AC Power (TCA•UL)		
6- 9	55502300	Plate Spring, Gnd.		
6-10	50447340	SW, Lever; I, REC CAL TONE (S305)(TCA)		
6-11	50447290	SW, Lever; E, DOLBY NR (S306)		
6-12	50447220	SW, Lever; B, INPUT/MPX FILTER (S303•304)		
6-13	50447310	SW, Lever; F, BIAS/EQ (S301•302)		
6-14	50535221	VR, Slide Type; 50kΩA ×2, RECORD (VR301)		
6-15	50535231	VR, Slide Type; 20kΩA ×2, OUTPUT (VR302)		
6-16	55502261	Plate, Power SW		
6-17	55301370	Button, Power SW		
6-18	50443870	SW, Push; Power (S307) (DM, EX)		
	50444500	SW, Push; Power (S307) (TCA)		
6-19	55502280	Plate, Fuse		
6-20	50412340	Fuse Holder		
6-21	50411130	Fuse, 0.5A (F101) (DM, EX)		
	50411330	Fuse, 0.5A (F101) (TCA•UL)		
6-22	55001050	Solenoid Assy, Auto-Stop (SOL101)		
6-23	50332850	Grommet, Plastic		
6-24	55301380	Button, Memory SW		
6-25	50444660	SW, Push; MEMORY Selection (S308)		
6-26	55502291	Plate, Memory SW		
6-27	55502270	Plate, Record Lever Guide		
6-28	50276280	Clamp, Wire; A		
6-29	51240010	Jack Assy		
6-30	55502221	Chassis, Front		
6-31	55502550	Bracket, Preampl. PC Board		
6-32	51680011	PC Board Assy, Preampl. (DM, EX)		
	51680630	PC Board Assy, Preampl. (TCA)		
6-33	55502521	Paper, Shield		
6-34	50332840	Brace, Retaining; Dolby PC Board		
6-35	50491200	PC Board Assy, Dolby "B" Processor		
6-36	51680621	PC Board Assy, Power Supply		
6-37	50529050	Spark Killer; 0.1μF+120Ω 400V (C401) (DM, EX)		
	50529060	Spark Killer; 0.1μF+120Ω 400V (C401) (TCA•UL)		
6-38	50438350	Terminal Strip, 2P		
6-39	55500830	Bracket, Sel. Plug Retaining (EX only)		
6-40	50434710	Plug, Voltage Selector (EX only)		
6-41	50435020	Socket, Voltage Selector (EX only)		

7. STANDARD ACCESSORIES


1
2
3
TEAC TZ-275
TAPE RECORDER
CLEANING STICK
TEAC TEST TAPE
TEAC
6
5
4

PARTS LIST-7

REF. NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
7-1	57100300	Cleaning Stick (TZ-275)		
7-2	60606090	Dolby Level Test Tape (MTT-150T) (TCA)		
7-3	50471250	Input-output Connection Cord		
7-4	50291350	Silicon Cloth		
7-5	50411130	Fuse, 0.5A (EX only)		
7-6	55502540	Screw Driver (TCA only)		
---	51011830	Instruction Manual (DM)		
---	51011840	Instruction Manual (EX)		
---	51011850	Instruction Manual (TCA)		

ELECTRICAL PARTS LIST

PRINTED CIRCUIT BOARD SECTION

NOTE

1. Electrical components of the PC Boards can be identified by consulting the Schematic Diagram and PC Board Diagram which are included in the basic Service Manual. After determining the Circuit Reference number for the part, use that number to obtain the TEAC Parts Number from this listing. Do not include the Circuit Reference number with your order - it is included here for your reference use only.

2. Double designated circuit reference numbers indicate left channel/right channel (example: R101/201).

1. PREAMPLIFIER

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
	51680011	PC Board Assy, Preampl. (DM, EX)		
	51680630	PC Board Assy, Preampl. (TCA)		
	51670271	PC Board, Preampl.		
	SILICON TRANSISTORS			
Q101/201	50424650	2SA721-T		
Q102/202	50424610	2SC1327-T		
Q103/203	50424610	2SC1327-T		
Q104/204	50424230	2SC828-T		
Q105/205	50423770	2SC644-T		
Q106/206	50423770	2SC644-T		
Q107/207	50424600	2SC828-S		
Q108/208	50424230	2SC828-T		
Q109/209	50423600	2SC828-Q		
Q301	50424230	2SC828-T		
Q302	50424230	2SC828-T		
Q308·309	50424230	2SC828-T (TCA only)		
	DIODES			
D101/201	50422130	Germanium, 1N60		
D102/202	50422130	Germanium, 1N60		
D103/203	50422130	Germanium, 1N60		
D301	50422130	Germanium, 1N60		
D305	50422440	Silicon, S-3016R (TCA only)		
	CARBON RESISTORS			
All resistors are in ohms, 5% tolerance, 1/4 watt and of Carbon type unless otherwise noted.				
R101/201	50571221	47k		
R102/202	50571341	150k		
R103/203	50571240	56k		
R104/204	50571221	47k		
R105/205	50570980	4.7k		
R106/206	50571141	22k		
R107/207	50570820	1k		
R108/208	50570640	180		
R109/209	50570500	47		
R110/210	50570980	8201		
R111/211	50570800	820		
R112/212	50570780	680		
R113/213	50571300	100k		
R114/214	50570700	330		

1. PREAMPLIFIER *(CONTINUED)*

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
R115/215	50571260	68k		
R116/216	50571540	1M		
R117/217	50570660	220		
R118/218	50571060	10k		
R119/219	50570880	1.8k		
R120/220	50571180	33k		
R121/221	50571340	150k		
R122/222	50570960	3.9k		
R123/223	50570500	47		
R124/224	50570820	1k		
R125/225	50570840	1.2k		
R126/226	50570940	3.3k		
R127/227	50570920	2.7k		
R128/228	50571240	56k		
R129/229	50571460	470k		
R130/230	50570840	1.2k		
R131/231	50571200	39k		
R132/232	50571460	470k		
R133/233	50570560	82		
R134/234	50570920	2.7k		
R135/235	50571140	22k		
R136/236	50571300	100k		
R137/237	50571140	22k		
R138/238	50571080	12k		
R139/239	50571060	10k		
R140/240	50570820	1k		
R141/241	50571180	33k		
R142/242	50571300	100k		
R143/243	50571520	820k		
R144/244	50570940	3.3k		
R145/245	50570660	220		
R146/246		Deleted by mod.		
R147/247		Deleted by mod.		
R148/248	50570960	3.9k		
R149/249	50570820	1k		
R150/250	50570940	3.3k		
R151/251	50570640	180		
R152/252	50570580	100		
R153/253	50570500	47		
R154/254	50571060	10k		
R155/255	50571220	47k		
R156/256	50570900	2.2k		
R157/257	50571060	10k		
R158/258	50571140	22k		
R321	50571120	18k		
R322	50571120	18k		
R323	50571120	18k (TCA only)		
R324	50571260	68k		
R325	50570940	3.3k		

1. PREAMPLIFIER *(CONTINUED)*

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION		REVISION	
				1st	2nd
R326	50571320	120k			
R327	50570660	220			
R328	50571060	10k			
R329	50570960	3.9k			
R330	50570490	33	(TCA only)		
R331	50571060	10k			
R332	50570580	100			
R333	50571160	27k			
R334	50571160	27k			

CAPACITORS

All capacitors are in micro farads and 10% tolerance unless otherwise noted.

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION		REVISION	
				1st	2nd
C101/201	50547580	Dip. Mica	82p/50V (DM, EX)		
	50547450	Dip. Mica	220p/50V (TCA)		
C102/202	50546561	Dip. Tantal.	10/16V		
C103/203	50554020	Elec.	47/25V		
C104/204	50547560	Dip. Mica	470p/50V		
C105/205	50554570	Elec.	100/10V		
C106/206	50554240	Elec.	33/10V		
C107/207	50549260	Mylar	0.068/50V 5%		
C108/208	50546701	Dip. Tantal.	1/35V		
C109/209	50546701	Dip. Tantal.	1/35V		
C110/210	50548760	Mylar	0.0022/50V 5%		
C111/211	50554400	Elec.	470/16V		
C112/212	50546701	Dip. Tantal.	1/35V		
C113/213	50554050	Elec.	10/16V		
C114/214	50554230	Elec.	100/6.3V		
C115/215	50554880	Elec.	22/16V		
C116/216	50554940	Elec.	2.2/25V		
C117/217	50549650	Elec.	0.47/25V		
C118/218	50554050	Elec.	10/16V		
C119/219	50554050	Elec.	10/16V		
C120/220	50554050	Elec.	10/16V		
C121/221	50546681	Dip. Tantal.	0.47/35V		
C122/222	50554030	Elec.	47/6.3V		
C123/223	50548950	Mylar	0.012/50V 5%		
C124/224	50548930	Mylar	0.0068/50V 5%		
C125/225	50548950	Mylar	0.012/50V 5%		
C126/226	50548960	Mylar	0.015/50V 5%		
C127/227	50546731	Dip. Tantal.	3.3/35V		
C128/228	50543420	Polyst.	220p/50V		
C129/229	50554050	Elec.	10/16V		
C130/230	50554050	Elec.	10/16V		
C131/231	50554940	Elec.	2.2/25V		
C132/232	50554030	Elec.	47/6.3V		
C133/233	50554940	Elec.	2.2/25V		
C134	50554570	Elec.	100/10V		
C135	50554570	Elec.	100/10V		

1. PREAMPLIFIER *(CONTINUED)*

				REVISION	
CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION		1st	2nd
C136/236	50547440	Dip. Mica	100p/50V		
C137/237	50547460	Dip. Mica	330p/50V		
C316	50554530	Elec.	4.7/25V		
C317	50546569	Dip. Tantal.	10/16V		
C318	50548020	Mylar	0.01/50V		
C319	50548020	Mylar	0.01/50V (TCA only)		
C320	50548020	Mylar	0.01/50V		
C321	50554540	Elec.	1/50V		
	TRIMMER RESISTORS				
VR101/201	50533520	47kΩB			
VR102/202	50533490	100kΩB			
VR103/203	50534050	470kΩB			
VR104/204	50533460	4.7kΩB			
	TRIMMER CAPACITORS				
VC101/201	50547060	210pF MAX			
VC102/202	50547060	210pF MAX			
VC103/203	50547060	210pF MAX			
	COILS				
L101/201	50566610	Choke,	1.2mH		
L102/202	50566550	Trap,	12mH		
L103/203	50562630	Record EQ,	10mH		
L104/204	50562640	Record EQ,	12mH		
L105/205	50562650	Record EQ,	15mH		
L106/206	50566700	Trap,	23mH		
T101/201	50562260	Transformer, Headphone; 3kΩ:8Ω			
S101/201	50444620	SW, Slide			

2. DOLBY "B" PROCESSOR

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
	50491200	PC Board Assy, Dolby "B" Processor		
	50484300	PC Board, Dolby "B" Processor		
		TRANSISTORS		
Q701/801	50424610	2SC1327-T *or*		
	50424340	2SC1000-BL		
Q702/802	50423590	2SC644-S *or*		
	50424100	2SC1000-GR		
Q703/803	50424210	2SA666I-S *or*		
	50424320	2SA493-GR		
Q704/804	50423770	2SC644-T *or*		
	50424340	2SC1000-BL		
Q705/805	50423590	2SC644-S *or*		
	50424100	2SC1000-GR		
Q706/806*	57240981	FET, 2SK30-DA *or*		
	57240991	FET, 2SK30-DB		
Q707/807	50424610	2SC1327-T *or*		
	50424100	2SC1000-GR		
Q708/808	50424210	2SA666I-S *or*		
	50424320	2SA493-GR		
Q709/809	50423770	2SC644-T *or*		
	50423660	2SC732-BL		

NOTE: Q706/806* These 2 FET's should be kept as a matched pair, either "DA" or "DB". Both must have the same h_{FE} value.
Replace as a pair.

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
		DIODES		
D701/801	50422440	Silicon, S3016R		
D702/802	50422440	Silicon, S3016R		
D703/803	50422440	Silicon, S3016R		
D704/804	50422170	Germanium, 1N60		
D705/805	50422440	Silicon, S3016R		
D806	50422640	Zener, 02Z7.5A		
		CARBON RESISTORS		

All resistors are in ohms, 10% tolerance, 1/4 watt and of Carbon type unless otherwise noted.

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
R701/801	50515730	470k		
R702/802	50515590	47k		
R703/803	50570940	3.3k 5%		
R704/804	50515310	560		
R705/805	50571180	33k 5%		

2. DOLBY "B" PROCESSOR *(CONTINUED)*

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
R706/806	50515220	100		
R707/807	50571020	6.8k 5%		
R708/808	50515380	2.2k		
R709/809	50515310	560		
R710/810	50515230	120		
R711/811	50529620	27k 1%		
R712/812	50529610	5.6k 1%		
R713/813	50515570	33k		
R714/814	50529510	150k 2%		
R715/815	50529520	180k 2%		
R716/816	50515560	27k		
R717/817	50515540	22k		
R718/818	50515480	8.2k		
R719/819	50515400	2.7k		
R720/820	50515570	33k		
R721/821	50529630	3.3k 1%		
R722/822	50571200	39k 5%		
R723	50515340	1k		
R724/824	50515560	27k		
R725/825	50515430	3.9k		
R726/826	50518000	1.5M		
R727/827	50515780	1M		
R728/828	50529510	150k 2%		
R729/829	50515510	15k		
R730/830	50515480	8.2k		
R731/831	50515480	8.2k		
R732/832	50515490	10k		
R733/833	50515570	33k		
R734/834	50515650	120k		
R735/835	50515590	47k		
R736/836	50515400	2.7k		
R737/837	50570820	1k 5%		
R738/838	50515170	47		
R739/839	50515510	15k		
R740/840	50515700	270k		
R741/841	50515700	270k		
R742/842	50515680	220k		
R743/843	50515480	8.2k		
R744/844	50515150	33		

CAPACITORS

All capacitors are in micro farads and 10% Tolerance unless otherwise noted.

C701/801	50554050	Elec.	10/16V		
C702/802	50596810	Polyst.	3000p/50V 5%		
C703/803	50596800	Polyst.	3300p/50V 5%		
C704/804	50554050	Elec.	10/16V		

2. DOLBY "B" PROCESSOR *(CONTINUED)*

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION		REVISION 1st	REVISION 2nd
C705/805	50543990	Polyst.	1800p/50V 5%		
C706/806	50594820	Mylar	5600p/50V 1%		
C707/807	50594840	Mylar	0.027/50V 1%		
C708/808	50554050	Elec.	10/16V		
C709/809	50554050	Elec.	10/16V		
C710/810	50554050	Elec.	10/16V		
C711/811	50594810	Mylar	4700p/50V 1%		
C712/812	50554050	Elec.	10/16V		
C713/813	50548040	Mylar	0.1/50V		
C714/814	50554030	Elec.	47/6.3V		
C715/815	50548040	Mylar	0.1/50V		
C716/816	50554050	Elec.	10/16V		
C717/817	50546561	Dip. Tantal.	10/16V		
C718/818	50549280	Mylar	0.1/50V 5%		
C719/819	50548040	Mylar	0.1/50V		
C720/820	50548830	Metallized Mylar	0.33/50V		
C721	50554260	Elec.	33/16V		
	TRIMMER RESISTORS				
VR701/801	50533480	10kΩB			
VR702/802	50533500	1kΩB			
	COILS				
L701/801	50566660	Choke, 38mH 5%	(Fixed)		
L702/802	50566650	Choke, 23mH	(Adjustable)		
--------	57240420	Pin, F3 Type, ×5			

3. POWER SUPPLY

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION	REVISION	
			1st	2nd
	51680621	PC Board Assy, Power Supply		
	51670391	PC Board, Power Supply		
Q303~305	50424230	Transistor, 2SC828-T		
Q306	50424670	Transistor, 2SC1317-R		
D302	50425090	Diode, Zener; RD-12EB		
D303	50422340	Diode, Silicon; FR2-02		
D304	50422260	Stack, Silicon; SIB02-C		
SCR-1	50428030	SCR, FIR3B41		
C301	50551380	C, Elec. 1000µF 35V		
C302	50551380	C, Elec. 1000µF 35V		
C303	50555580	C, Elec. 1000µF 25V		
C304	50554890	C, Elec. 1000µF 16V		
C305	50554890	C, Elec. 1000µF 16V		
C306	50554020	C, Elec. 47µF 25V		
C307	50554200	C, Elec. 100µF 16V		
C308		Deleted by mod.		
C309	50548020	C, Mylar 0.01µF 50V		
C310	50548020	C, Mylar 0.01µF 50V		
C311	50548320	C, Mylar 0.001µF 50V		
C312	50554240	C, Elec. 33µF 10V		
C313	50554240	C, Elec. 33µF 10V		
C314	50545930	C, MP (3+1)µF 150V AC		
C315	50554970	C, Elec. 0.47µF 50V		
R301	50527050	R, Metal Oxide Film 470Ω 2W		
R302	50527100	R, Metal Oxide Film 220Ω 1W		
R303	50525460	R, Metal Oxide Film 10Ω 1W		
R304	50527120	R, Metal Oxide Film 250Ω 3W		
R305	50527200	R, Metal Oxide Film 56Ω 1W		
R306	50570840	R, Carbon 1.2kΩ 1/4W 5%		
R307	50527230	R, Metal Oxide Film 120Ω 1W		
R308	50570700	R, Carbon 330Ω 1/4W 5%		
R309	50571220	R, Carbon 47kΩ 1/4W 5%		
R310	50571220	R, Carbon 47kΩ 1/4W 5%		
R311	50571220	R, Carbon 47kΩ 1/4W 5%		
R312	50570980	R, Carbon 4.7kΩ 1/4W 5%		
R313	50570740	R, Carbon 470Ω 1/4W 5%		
R314	50570820	R, Carbon 1kΩ 1/4W 5%		
R315	50571140	R, Carbon 22kΩ 1/4W 5%		
R316	50571140	R, Carbon 22kΩ 1/4W 5%		
R317	50571300	R, Carbon 100kΩ 1/4W 5%		
R318	50571580	R, Carbon 1.5MΩ 1/4W 5%		
	50400790	Oscillator Unit, 100kHz		
	50332370	Toggle Plate, 50Hz/60Hz Selector		

4. REAR PANEL LEVEL ADJ. ASSY

CIRCUIT REF.NO.	TEAC PARTS NO.	DESCRIPTION	REVISION 1st	REVISION 2nd
	51680041	PC Board Assy, REC/PB CAL		
	51670301	PC Board, REC/PB CAL		
VR105/205	50533520	Trimmer Resistor, 47kΩB		
VR106/206	50533490	Trimmer Resistor, 100kΩB		
VR107/207	50533490	Trimmer Resistor, 100kΩB		
VR108/208	50533490	Trimmer Resistor, 100kΩB		
R501·503	50573240	C, Carbon 56kΩ 1/4W 5%		
R502·504	50572960	C, Carbon 3.9kΩ 1/4W 5%		
	50430330	Jack, Pin (White)		
	50430320	Jack, Pin (Red)		
	50430340	Jack, DIN		